Implementing Peer-Assessment in the Classroom: A Case Study

Thesis

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Personal Statement

This material is original and has not been submitted previously for a degree or other qualification of the Open University or any other institution.

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Abstract

Widely accepted as a formative assessment strategy, peer-assessment is said to have the potential to motivate learners, encourage deep learning, and enable learners to acquire social, communication and problem-solving skills, which could impact upon the development of successful metacognitive thinking. Peer-assessment within classroom environments was investigated in one school by exploring learners' perceptions through the use of an attitude questionnaire. In addition both learners' *and* teachers' perceptions were explored through observations in classrooms and interviews. Themes were identified and then comparisons were made between learners' and teachers' perceptions of peer-assessment.

It was found that teachers adopted a formal, written approach to peer-assessment which appeared to have been influenced by school-provided Continuing Professional Development (CPD) and the requirement from a senior leadership team (SLT) directive to provide written evidence that peer-assessment was being conducted in lessons. Learners' perceptions of peer-assessment were positive, although attitudes varied when different approaches to peer-assessments, such as formal and informal peer-assessments, were put into practice. Themes relating to social and emotional factors were shown to impact upon some learners' levels of motivation, resulting in restricted participation in formal peer-assessment activities.

The importance of these findings highlights attributes of the accountability culture in schools, which is having a detrimental effect on the use of peer-assessment in developing sociocultural relationships between learners in this school. Learners are not, in many cases, using the feedback from peer-assessment to improve their work.

Opportunities were missed to contribute to learners' abilities in self-regulation and their related development of metacognitive thinking. The power of SLT directives occasioned by the current accountability culture to overwhelm teachers' own pedagogical imperatives is demonstrated.

Peer-assessment in this school is shown not to be maximising the opportunities to enrich sociocultural experiences, as peer marking and feedback usually occur at the end of a learning cycle. Lessons in Personal Development are suggested as a way to offer opportunities for peer-assessment to be developed and then built upon across the curriculum, enabling learners to develop transferable skills which can be used for future learning.

Chapter 1: Introduction

1.1 School Context and My Personal Rationale

The research was undertaken in a voluntary-aided secondary school, located in the North East of England, with learners aged 11-16 in Year groups 7-11.

The research reported in this thesis began with a concern that the teachers in the school studied lacked a general understanding in what peer-assessment entailed and, therefore, the learners were not benefiting from its use in the ways that the literature indicated that they could. My interest in peer-assessment developed whilst completing an MA (Ed) in 2006-2007 into the use of formative assessment in science at Key Stage 3, where I identified this concern, and I was intrigued to know if this issue was a school-wide issue, or only related to science. My MA dissertation, which was based on quantitative data, left me with many questions that I wanted to investigate further. I was interested to understand from both learners' and teachers' perspectives why there appeared to be such a lack of understanding with regard to the way that peer-assessment was implemented, and perhaps because of that, the lack of value learners and teachers placed on peer-assessment. This formed the basis of one of my research questions.

During my research I was a member of the school's Learning Development Group (LDG), a learning community of teaching colleagues engaged in research relating to teaching and learning, with a view to improving teaching practice within the school. While members of the LDG were interested in peer collaboration in general it was through my participation within the LDG that I became interested in gaining a deeper

understanding of the benefits of peer-assessment and the interactions peers have with each other.

Bulotsky-Shearer *et al.* (2010) describe the importance of pre-school children developing positive relationships with peers and teachers, as this can help develop essential skills for both social and academic readiness, including emotional regulation, problem solving, empathy, cognitive and language skills. Learning-related social skills, such as self-control and the ability to stay on-task, cooperation, and independence, are important skills which may promote academic attainment as learners progress through the school. A second issue I was interested in was the extent to which peer-assessment allows learners to form positive relationships with their peers, how this affects learning, subsequent skill development, and if there are any factors that may hinder or inhibit this. As a member of the LDG and already committed to the research, my interest in peer-assessment was further compounded due to the events that followed in 2008-2010, which I will now outline. These events increased my awareness and interest in discovering the actual processes leading up to the implementation and facilitation of peer-assessment by teachers in the school studied, and thus the effect that peer-assessment would have on the school's learners due to the way that it was actualised.

The events started when the Office for Standards in Education, Children's Services and Skills (Ofsted), an organisation that regulates and inspects schools with the intention of improving care and the education and skill development of young people, served the school with a 'notice to improve' in 2008. Appendix 1 shows the timeline of events that followed. Although, in what may have been perceived as a negative situation,

teachers were generally very positive in trying to make helpful steps to improving teaching and learning, as they had a strong group spirit to make improvements and to succeed.

The Ofsted feedback stipulated that the areas of focus within the school requiring improvement were the enhancement of learners' understanding of learning goals and assessment criteria, and on the development of the practice of self-assessment and peer-assessment. In order to address these reported weaknesses in teaching and learning, a deputy head with responsibility for teaching and learning was appointed in 2009. This deputy head encouraged further volunteer teachers to join the LDG, and encouraged the group to conduct research on the use of specific teaching and learning strategies, and then disseminate the findings, of both good and poor practice, to teaching colleagues. From September 2009, members of the LDG met on a regular basis, once each half term. The members included a Secondary Consultant from the Local Education Authority, two deputy headteachers, one of whom taught science and the other taught RE, four additional science teachers and one history/geography teacher. Although heavily weighted towards science, all members were concerned with making improvements to teaching and learning throughout the school.

After the appointment of the deputy head responsible for teaching and learning, the institutional response of the school's SLT to the feedback from the Ofsted report was to develop a CPD programme, where all members of the teaching staff were required, as part of their contracted directed time, to attend additional professional development training concerning the use of formative assessment.

The school invested time and financial resources in providing training for all teaching staff. The Ofsted report was the major driver behind this training and the actions recommended were intended to provide evidence for future inspections that peer-assessment was being carried out. The SLT's decision, which was made clear in the CPD training plan, was that in order to provide evidence for future Ofsted inspections, whenever peer-assessment was carried out, teachers were required to demonstrate that learners had been actively engaged in peer-assessment activities through the provision of written evidence located in their exercise books. Marking trawls would be carried out each half term by a member of the SLT, or other suitably qualified teachers, such as heads of departments. Those conducting the trawl would specifically look for evidence of the use of peer-assessment in their own curriculum subjects. Therefore, it was made clear that peer-assessment had to be in a written form, with a clear label that it was peer-assessment. Learners were required to employ assessment criteria in their advice to peers about how to make improvements, and to assign a level/grade to their peer's work if at the end of a topic. Learners were then to sign and date their feedback, thus providing evidence that peer-assessment was being carried out on a regular basis. Teachers were asked to employ assessment criteria written in a language that learners would understand, but they were not advised when to incorporate peer-assessment during a topic.

Teachers were asked to bring examples of what they perceived to be ideal models of peer-assessment used in their classrooms to the three-hour CPD training session. During the session teachers worked in groups with teachers from different curriculum subjects, and group sizes ranged from six to nine. As some curriculum subjects have

larger department sizes than others, it was found that there was overlap in most of the groups with two or more teachers from the core curriculum subjects of English, mathematics or science. Within the training activity, examples of 'peer-assessment feedback' were provided, some of which were actual specimens from the learners in years 7 to 11, and some of which were manufactured by the deputy head responsible for assessment, for the purpose of the training. The majority of these exemplar materials, provided by both the deputy head and those which were brought by teaching staff, were very similar in that they consisted of feedback provided at the end of a topic and included both a level/grade and feedback about how to improve. Exemplar material from the technology department, however, showed continual peer-assessment throughout a topic.

Teachers compared the exemplar materials, and discussed within their groups what they considered both positive and negative examples of peer-assessment. After this discussion, individual groups fed back to each other by taking turns to speak to colleagues as a whole, and then comparisons were made and discussions were reflected upon. Teachers were then encouraged to go into groups with colleagues from their own curriculum subject, unless the curriculum subjects consisted of only one teacher and they were asked to work together with teachers from other departments, and then develop ideas of how to incorporate peer-assessment in their schemes of learning. Discussions between teaching colleagues identified the value they placed on having the opportunity to work together, especially with teachers from different curriculum departments, as they felt less alone and more of a team. Teachers also appreciated the opportunity to see how different curriculum subjects

delivered peer-assessment, and suggested that future CPD could include a variety of strategies such as lesson observations and information booklets.

Although there was camaraderie, group determination and perseverance amongst the teachers, they were in a professional dilemma that was amplified with personal dilemmas too. They were very reluctant to cause any friction between themselves and members of the SLT as the school was also undergoing a period of redundancies, as a result of a falling birth rate in the catchment area, effectively reducing the school's budget and financial capability to employ the same volume of staff. The teachers were under pressure to ensure they were doing as the SLT requested, in order to maximise their opportunity of retaining employment.

The culmination of the enforced marking policy, the influence of the CPD, and the pressures to ensure that teachers had evidence for accountability undermined their professional identity, with the undercurrent of the SLT's lack of faith and trust in them.

I became interested in ascertaining how these professional and personal dilemmas teachers faced, and the tensions between the two, affected the peer-assessment facilitation within the school. As previously mentioned, the teaching staff were genuinely positive about making improvements to teaching and learning, and the members of the LDG in particular, supported me in my research as they shared my interest in understanding how peer-assessment was actually realised in the classroom, with the hope of identifying how to improve peer-assessment within the school. By conducting research throughout the school, it allowed me the opportunity, not only to investigate the effectiveness of peer-assessment, but also to gain information that may lead to improvements in my personal teaching practice.

In summary, my research questions, which are expanded upon at the end of the Literature Review chapter, outline how the research in this thesis investigated the effectiveness of peer-assessment, the values placed on it, and the barriers that may affect such effectiveness. This research project explored the implementation and development of peer-assessment over time as a time series analysis case study (Yin, 2009).

In order to assist teachers in the development of reflective practice, and to engage them in the development of their skills, Kennedy (1999) highlights the need for teachers to actively engage in dialogue with their colleagues. This research project, therefore, enabled me, firstly, to engage in my own professional development through dialogue with teaching colleagues, which in turn will allow them to discuss the findings of my research and focus on issues relating to the effectiveness of peer-assessment.

In this section I have identified my own context and rationale. The following section reviews the literature pertaining to peer-assessment, and the factors that may affect its use.

Chapter 2: Literature Review

The focus of the research, as described in the Introduction, is on peer-assessment in one specific school, where I am employed as a teacher. I will initially seek to define what is meant by formative assessment, as peer-assessment is embedded within the overall concept of formative assessment. In particular, formative feedback seemed to be an area of significance to help learners engage with their work and enable them to be aware of how to make improvements. The importance of formative assessment is then discussed, with particular emphasis on teachers' research findings with regard to 'Assessment for Learning' (AfL). The constituent elements of AfL are addressed, including how learners identify what is to be learnt, feedback, and the learners' engagement with this feedback from both teachers and peers. Once I have outlined formative assessment the remainder of the Literature Review will highlight the importance of peer-assessment to assist with learning, and as will be shown it will identify how the effectiveness of peer-assessment may be affected by learners' levels of confidence, self-esteem and motivation, and their learning environments. The identified areas that may affect peer-assessment were used as a basis for investigating how they affect peer-assessment within my own research.

2.1 Teachers' Research in Formative Assessment

As I am a teacher-researcher interested in peer-assessment, an element of formative assessment, prior to my main literature search concerning peer-assessment, I first read

a range of articles relating to formative assessment conducted by practising teachers. The benefits, that will now be discussed, further supported my interest in conducting research into peer-assessment.

Haigh and Dixon (2007) explain that when teachers participated in research into formative assessment and feedback, they had an increased understanding of the nature and role of formative assessment in supporting and enhancing learning. In addition, as a result of what the teacher-researchers learnt during the process, changes in teaching practice were implemented, which informed lesson planning and subsequent teaching. The teacher-researchers increased their repertoire of formative assessment strategies, including the development of "surveys, questionnaires, post-boxes or significance diamonds, which were to draw out [learner] understandings" (Haigh and Dixon, 2007, p.370).

Young and Giebelhaus (2005) describe how teachers engaged in professional development to enhance their knowledge of formative assessment strategies, with the aim of improving standards in the classroom. Wilson (2008) also found that teachers who were encouraged to discuss classroom practice, as part of a collaborative learning community, improved the standards in their classrooms. In these two examples, where teachers have taken charge of their own learning through a combination of theory and practice, and then implemented formative assessments in their classrooms, they agreed that learning objectives should be shared and clear achievement targets should be set. The above examples clarify the importance of communities of like-minded teachers working to instigate formative assessment in schools.

2.2 Political Background of Education in England from 1988

In 1988 the Education Reform Act for England, Wales and Northern Ireland transformed education by making provision for a new statutory national curriculum for learners aged 5 to 16. The new national curriculum applied to state-maintained schools and was overseen by the Department of Education and Science (DfES), which was led by Kenneth Baker. While the aims of the national curriculum were to ensure that learners had access to a broad and balanced curriculum; that standards were set for pupil attainment and to make schools accountable; to improve continuity and coherence within the curriculum, and to aid public understanding of the work of schools (House of Commons Children, Schools and Families Committee, 2009), key principles in its development were also outlined. These key principles included:

- The promotion of "spiritual, moral, cultural, mental and physical development of pupils, and to prepare pupils for the opportunities, responsibilities and experiences of adult life";
- The structuring around Key Stages to "be subject-based, covering the 'core' subjects of English, mathematics and science, and the 'foundation' subjects of art, geography, history, music, physical education and technology, with all subjects studied from age 5 up to age 16, modern foreign languages from age 11", and
- Setting the syllabus for each subject at each Key Stage "in a 'Programme of Study', which would also include a scale of attainment targets to guide teacher assessment."

(House of Commons Children, Schools and Families Committee, 2009, p.61)

The Secretary of State for Education and Science set up a task group called the Task Group on Assessment and Testing (TGAT, 1988) to advise government ministers on assessment and testing within the new national curriculum. There was little thought into what the assessment arrangements would consist of prior to the publication of the Education Reform Act (Gardner, 2006).

Recommendations by TGAT (1988, p.7) stated that assessment should be at the heart of promoting learning and this should be a "principal aim of schools". The assessment process should not determine what is to be taught or learned, it should be an integral part of the educational process and must continually provide feedback. This feedback must be criterion-referenced in relation to learners' achievements relating to set learning objectives, as opposed to being norm-referenced, which is relative to the performance of other learners and promotes comparison. The feedback provided should be formative in nature, so that it provides a basis for promoting further learning.

The Conservative government at the time, which was in power from 1979-1990, accepted most of the recommendations of the TGAT report, although in practice the ministry of education implemented very little and did not enforce these recommendations. The Conservative's leader, and then Prime Minister, Margaret Thatcher, later explained why the recommendations were not put into practice: TGAT had recommended "an elaborate and complex system of assessment" that was "teacher dominated and uncosted" (Thatcher, 1993: 594). Instead of following TGAT's recommendations, the government focused on developing national summative

assessments in core subjects, which would be implemented at the end of each key stage, and the assessment of foundation subjects would be by continuous teacher-assessment. Learners' achievements in core and foundation subjects were graded according to a scale of numbered levels, and school data for core subjects were then published and used as an indicator of performance of learners in different schools. Teachers, schools, and Local Education Authorities were made accountable for this performance (Gardner, 2006).

Since the introduction of the national curriculum, schools have become increasingly accountable for learners' performances in high-stakes external examinations. Such political pressures seem likely to encourage teachers to focus on teaching examination syllabi content didactically, encouraging learners to learn responses, which indeed they may not conceptually understand (Shepard, 2000). In this way, teacher accountability can be seen to have a negative impact upon learner populations and school resources, as high-stakes examinations are shown to narrow the curriculum, focusing instruction towards lower order cognitive skills (Darling-Hammond, 2004) such as remembering facts.

It is the importance of high stakes examinations that play on both a teacher's apparent success in school, and also as a comparison between other schools, that affects teaching and learning. A further explanation of this is that it changes the focus away from developing higher-order cognitive skills such as evaluation, to the coverage of delivering, and learners' memorisation of, curriculum content. This practice may be more relevant to schools that are deemed to be under-achieving, or not reaching targets set by the Local Education Authority or Ofsted. They could be more likely to

focus purely on examinations as this may seem to increase the possibility of meeting targets, even if such a focus could be in detriment to the development of other factors. Targets used by Ofsted to judge schools are set as percentages of learners that should be achieving five or more GCSEs at grade C or above, including English and mathematics.

Learner competition, as opposed to learner improvement, is often encouraged by a focus on summative assessments (Black and Wiliam, 2006). External summative tests have been shown to promote a competitive atmosphere amongst learners, however, this contrasts to the ethos of formative assessment and improvement in learning as learners are too focussed on knowing their grades, rather than on how to make improvements to learning (Harlen, 2006). Norm-referencing, ranking learners in cohorts, creates social comparison between learners, a process which can have a negative effect on their motivation, although it may have a positive effect on some learners who are motivated by competition. Relationships between learners and teachers are also at risk if the focus is on 'teaching to the test' and not on full understanding. Relationships can become strained if teacher assessment is only being used for summative purposes, as the teacher may be seen as a judge rather than a facilitator (Gipps, 1994).

In 1989 members of TGAT formed a group of voluntary researchers known as the Assessment Reform Group (ARG), a special interest group set up by the British Educational Research Association (BERA). Members of the ARG worked with teachers, teacher organisations, and Local Education Authorities, exploring the implications of assessment policies and practice (Assessment Reform Group, 2008). After 1997 the

ARG continued to work as an unaffiliated group, funded by the Nuffield Foundation. It was this group that introduced the term 'assessment for learning', or AfL, in preference to formative assessment, as AfL uses formative assessment as an element of classroom work and enables learners to take greater ownership of their learning (Education Scotland, 2013). AfL has been defined as:

"The process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there."

Assessment Reform Group (2002)

AfL was founded upon 10 principles (Assessment Reform Group, 2002): effective planning; focussing on how learners learn; being central to classroom practice; being a key professional skill; it is sensitive and constructive; fosters motivation; promotes understanding of goals and criteria; helps learners know how to improve; develops the capacity for self and peer-assessment; and recognises all educational achievement.

In 1998 the National Strategies were introduced by the new Labour Government to improve the quality of teaching and learning in schools, and to raise levels of attainment. These Strategies formed part of a professional development programme for teachers and initially focused on literacy and numeracy, but were later developed to include the 'Assessment for Learning Strategy'. The AfL strategy was launched across all key stages in 2008, initially in English and mathematics, and then extended to include science, ICT and the foundation subjects (DCFS, 2008).

2.3 Defining Formative Assessment

The concept of formative assessment has developed over time, with differing emphasis as to where the level of responsibility lies between teachers and learners. Bloom *et al.* (1981) gave the definition of formative assessment as having the purpose, not to grade or certify the learner's work, but rather to help both the learner and their teachers focus upon areas of learning that require improvement. In contrast, formative assessment has been defined as a process used by teachers so that they know how to improve teaching, responding to the progress learners have made in order to enhance further learning (Cowie and Bell, 1999). The utilisation of evidence to modify teaching practice (Black *et* al., 2002) is a dichotomous process as it involves, and impacts on, teaching in order to meet learning needs (Black and Wiliam, 2003).

Formative assessment can be seen as an integral part of the learning process where assessment is essentially 'in-house' (Sadler, 1989). Formative assessment cannot be viewed as a bolt-on activity, but rather should be integrated into teaching and learning (James, 1998). Thus, formative assessment occurs frequently as part of the learning process, with teacher-feedback provided to learners enabling them to know how to make improvements to their work (Sadler, 1989) and to put this knowledge into practice (Newton, 2007).

Elements of Formative Assessment and Assessment for Learning (AfL)

Black *et al.* (2003) use the terms 'formative assessment' and 'assessment for learning', suggesting that the terms may be used interchangeably, emphasising assessment as a process of promoting learning. Assessment for learning provides the teachers with information that they may use to modify teaching and learning activities so as to improve learning and to meet the learning needs of individuals (Black *et al.*, 2003).

Formative assessment, emphasised by the UK government in an AfL agenda, was very influential in the school in which this research took place. This agenda defines how classroom assessment could improve learning, by "seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there" (Assessment Reform Group, 2002, p.2). The DCSF (2008) published a definition of 'assessment for learning' as being part of effective planning, an essential element of classroom practice, promoting learners' understanding of goals and the criteria for assessing their work. They further describe how AfL uses key professional skills that recognise all educational achievement, that are sensitive, constructive, foster learners' levels of motivation, develops the capacity for learners using self-assessment and peer-assessment, and ultimately helps learners to know how to improve.

All definitions of assessment for learning or formative assessment require identification of what is to be learned, so that all participants understand what is being assessed. Therefore, I then explored how 'what is to be learned' was discussed in the literature and began to establish terminology for its discussion.

Identifying What is to be Learned

If peer-assessment is to be successful, learners must be aware of what the learning goals of the work are. James (1998) explains that learning goals should be communicated in a form that learners can comprehend, and not be in 'official' teacher language. Learning goals are described by the Department for Education and Skills (DfES, 2004c) in two categories: the learning objectives, that which the learners will learn; and the intended learning outcomes that are in the form of clear success criteria, outlining the knowledge and skills learners are expected to attain. Transparency of the criteria for assessing learning achievements will enable learners to have a clear overview both of the goals of the work and what it would mean to complete it successfully (Black *et al.*, 2002).

Tunstall and Gipps (1996) observe that teachers use their judgements of learners' knowledge and understanding to decide what to address in their teaching, and how to present the curriculum content. James (1998) adds that in identifying what the learners have, or have not achieved, the next steps in teaching can be planned. Thus, the teacher must gain an insight into learners' knowledge, understanding and skills, to communicate the goals, success criteria and subject content for learners and to strive towards, and promote, higher levels of motivation and self-regulation (Torrance and Pryor, 2002). Torrance and Pryor (2002) explain that the learner must have a role in the process, particularly by communicating what they have learned so that the teacher understands what is needed in future lesson planning. Anderson *et al.* (2001) support this view in their social-constructivist model of learning, which emphasises the

importance of learners' reflective practice and communicating their conclusions as an important attribute of learning.

Anderson *et al.* (2001) describe learners knowing how to learn as 'metacognition', with self-reflection being an important part of the metacognitive process. This is a process requiring both knowledge about cognition, experienced through cognitive or affective experiences, and the knowledge of how to control, monitor and regulate cognitive processes during tasks (Flavell, 1979). Selçuk *et al.* (2011) support the views of Torrance and Pryor (2002) and Anderson *et al.* (2001), as they further describe how metacognitive strategies are employed during processes of planning, monitoring, and evaluating learning or the effectiveness of the strategies employed.

The learning objectives, and criteria for having attained those objectives, need to be transparent and well expressed so that learners know what they have to learn and how that learning will be assessed. It is the responsibility of both the teacher and learner to assess, identify, and then communicate, what has been learnt so that the future planning of learning activities can be informed to promote the development of learners' metacognition.

Once learners have an understanding of the learning goals, a process of formative assessment, including peer-assessment, can then ensue. What exactly this may consist of will now be examined through an exploration of relevant research, which allowed a comparison to then be made to the learners in my own research, gauging the extent to which similarities or differences occurred. Therefore, the different processes of formative assessment and the important factors associated with them are addressed in the next section.

Peer-assessment and Learning

Pryor and Crossouard (2005, p.2) acknowledge that formative assessment can be seen as a form of "social practice of participation in discourse", which involves "dialectical, and sometimes conflictual, processes" in terms of what counts as legitimate knowledge and assessment demands. As learning occurs over a period of time, assessment must be structured to accommodate this gradual construction of knowledge and understanding. It seems to me that peer-assessment could be structured in order to facilitate participation in the dialectical discourse and to scaffold the learner's construction of knowledge.

Glaser and Bassok (1989) explain that accessibility to knowledge is dependent on how the knowledge is structured. Some learning is a simple accumulation of knowledge such as remembering a fact, whereas it may take longer to acquire more complex knowledge or a more complex physical skill. The acquisition of more complex knowledge may involve the restructuring of thoughts and this is considered by cognitive constructivists such as Piaget (1926), and social constructivists such as Vygotsky (1978), to emerge over time. Formative assessment, as described by Black *et al.* (2003), aims to discover *what* the learner knows, understands or can do, and is characterised as part of the constructivist framework, addressing many sociological problems of learning by clarifying social rules governing the learning context. It is not just the teacher who is part of this discovery process, but most importantly the learner as well, thus peer-assessment that requires learners to be part of the process of setting out and assessing the learning is clearly based in the constructivist framework.

2.4 Feedback

Formative Feedback

Learners must receive task-related feedback from teachers and peers if they are to change their trajectory in learning. The mere presence of feedback is not sufficient to decide if assessment is formative (Perrenoud, 1998), as feedback within formative assessment not only identifies areas for improvement, but must be provided with a view to enabling learners to make necessary improvements in their work (Scriven, 1967), or performance, which contributes to their learning (Yorke, 2003). Taras (2008) observes pertinent feedback to be an essential element for the promotion of learning.

Feedback to learners about their work enables them to understand the level of learning they have achieved (Irons, 2008) with remediation or the provision of further learning opportunities (Baroudi, 2007). Exemplifying the complex interplay of the factors in formative assessment is the idea that feedback should be aligned to the learning goals, indicating how and where they contribute to the learning outcomes (Irons, 2008). It is Important to use a continuing feedback dialogue as learning tasks progress. The learners themselves can engage in a feedback dialogue with each other as part of the process of peer-assessment, in addition to dialogue with their teacher (Torrance and Pryor, 2001), so that feedback is continually provided and learners may use it to improve learning.

Sadler (1989) explains how there are few physical, intellectual or social skills that can be acquired by simply being told about them with information describing how successfully something has been, or is being done. Rather, the content of the feedback

should provide learners with information to help them improve their work, and it must be given with ample time for the learners to then make such improvements. Brown *et al.* (1992) further explain that learners can advance their levels of knowledge and understanding, in addition to their skills, but also agree that feedback needs to focus and identify what the learners need to do next to improve and how to accomplish it. The most effective process is to incorporate feedback loops within a supportive environment where a teacher, and learners as part of peer-assessment, knows what knowledge and skills are to be learned, can recognise them, demonstrate them, and communicate to the learner how work can be improved (Sadler, 1989).

To be successful peer-assessors, learners must be able to judge the quality of their work and be able to regulate what they are doing as they are doing it, using a repertoire of alternative moves or strategies to draw upon as they do so (Sadler, 1989). As learners "develop a store of tactics or moves, which can be drawn upon to modify their own work" and improve its quality (Sadler, 1989, p.119), Torrance and Pryor (2002) add that learners can then improve metacognitive thinking. This may then improve learners' levels of competence by reducing "trial and error learning" and so emphasises that it is how learners employ feedback, in a formative sense, rather than employing this feedback as a summative statement, which is passive, in the sense that it has no immediate effect on improving learning (Newton, 2007, p.153). Learners will then be in a position to modify or improve work, and more readily recognise their own strengths and weaknesses. The teacher is in a supportive role as he or she is providing feedback at a detailed level helping learners to improve their work, and facilitating their learning.

Is it only through dialogue, either written or verbal, with a teacher or more knowledgeable peer that a learner has the opportunity to identify what must be done to improve his/her work? Which methods of feedback provision may be used to promote the process of learners' self-reflection? The next sections will identify what constitutes effective feedback, how feedback should be targeted, and also the requirements necessary for effective feedback to be employed. Through investigating effective feedback and the factors that may enhance or hinder its use I was then able to evaluate the extent to which feedback in my own research into peer-assessment is effective.

Effective Feedback

As peer-assessment involves the provision of feedback, Sadler (1989) states that for it to be effective learners must:

1. Have the knowledge of the standard to be achieved;
2. Have the skills to make multi-criterion comparisons about their work, based on their knowledge of the standard to be achieved and the objectives set for the task; and
3. Develop ways to produce work in which the standards aimed for can be achieved.

Butler (1987) describes how the quality of the feedback will affect task-involved perceptions, and that levels/grades and praise promotes ego-involved perceptions of self-worth, whereas no feedback results in these perceptions not being promoted.

This can be said for feedback from peer-assessment in addition to feedback from teachers. Ego-involving feedback is best seen as a side effect of task-involving feedback as when a level/grade is given it can immediately offer the ego either a boost, or it could have a negative effect if learners feel inadequate. This is why levels/grades provoke negative reactions in class, and learners want to argue about them (Black *et al.*, 2003) and persuade teachers to improve their grade. Good marks can also negatively affect work as learners may think they are already good enough and so have no need to work harder (Dweck, 2000). Butler (1987) also describes how learners that have a tendency to be high attainers and regularly receive good grades may focus on ego-enhancing traits, rather than becoming motivated to engage in task-involving activities, and this may actually harm their potential to continue learning.

Task related feedback, for example comments without national curriculum levels/examination board grades, directs attention on improving the work. This immediately engages the learners as the comment clearly suggests to learners that they can make this improvement. Learners, who feel they are constantly given negative feedback in the form of grades, lose interest as they may no longer perceive their involvement in the activity to be relevant, or a target to be achievable. They often develop 'learned helplessness', a behavioural theory conceptualized and developed by an American psychologist Martin Seligman (Seligman, 1975), which is a variety of cognitive and behavioural manifestations that include passivity and a lack of persistence when faced with failure with intellectual performance, leading to negative self-attitudes (Butkowosky and Willows, 1980). This learned helplessness is a manifestation of the system of giving ego involving levels/grades as it seems to be 'pot

luck', where learners either think they are not lucky enough to get a good grade or that they must do exactly what their teacher tells them, and keep on checking, as they perceive that they cannot be expected to understand what to do.

Crooks (1988) further notes that written feedback will not be effective if learners find it too difficult to understand or if it is very negatively written. Furthermore, task-involving feedback can become demoralising if it only states what is wrong and does not give suggestions for improvement; this may provide further reasons why learners who are constantly given low grades cease to try to improve (Black *et al.*, 2003).

Written feedback, and personalised written feedback in particular, has been found to be instrumental in raising learners' levels of attainment and learners have been shown to outperform peers who receive grades only, or a combination of grades and comments (Page, 1958, and Lipnevich and Smith, 2009). In circumstances where feedback is used in conjunction with a grade, the feedback may be ignored or, in the case where learners received a grade, but then had to collect their assignments from their teacher, in some circumstances feedback was not collected, and if it was collected it may not always have been read (Wotjas, 1998). However, written feedback is not the only type of feedback a learner can receive, as is discussed later in this chapter.

The previous section described effective feedback, but as was also briefly stated, it may not be the case that feedback is always effective. This section will outline cases where feedback, or its utilisation, is ineffective and the reasons for it being ineffective. Learners may not access and utilise their feedback if their teachers do not follow-up and check that learners have done so (Gibbs and Simpson, 2003). In fact, Rust (2002)

states that unless the learners are required to actively engage with the feedback there will be a limited effect on their learning. If feedback comes too late due to time constraints it will be of limited, or no, use (Gibbs and Simpson, 2003). Knight (1995) further outlines why feedback may not be utilised, suggesting that feedback given at the end of a task is often, at least in the learner's mind, restricted to that task alone and either may not be applicable to the following tasks or the learner may not remember it when completing similar tasks later. Thus, just providing feedback on a learner's performance is not sufficient to allow them to progress, and it is the steps that have to be put into place that allow the learners to actively engage with the feedback that improves performance. Lee (2006) describes how feedback is effective when provided within the first two thirds of the time available for the task. This ensures that learners have sufficient time to do the task and then they subsequently have one third of the available time in which to engage with feedback to develop their work. When this two-thirds rule is applied to peer-assessment it is not only beneficial to the learner receiving feedback, but it is also useful after having assessed a peer's work due to the self-assessment and self-reflection elements it provides through assessing another's work (Lee, 2006). Therefore, the effectiveness of feedback is not only in the guidance it provides but in the way that this guidance is subsequently employed to develop learning, and for this to occur learners must understand the guidance and what is being asked of them, and have an understanding of, and be able to monitor their work in progress.

In summary, for feedback to be effective it has to be given with sufficient time for learners to utilise it effectively thus making improvements to their work. This

feedback should be both clear and comprehensible for the learner, whether feedback is written or provided orally in normal classroom dialogue, focussing on the task rather than being ego-involving. For feedback to be truly effective it must involve the learner in the process, therefore, in the following section I looked at how the learner may be involved in formative assessment, and used this information as a basis to investigate the involvement of learners in my own research.

2.5 Learners Involvement in Formative Assessment

The authors Sadler (1989), Torrance and Pryor (2001), Pryor and Crossouard (2005), and Lee (2006) have observed that a vital part of formative assessment is the involvement of learners in the process. Therefore, to investigate this further the next section explores how learners may utilise formative feedback for the improvement of their learning. An important part of involving learners in the process of assessment is to use peer-assessment and hence, although there will be an in-depth discussion of peer-assessment later, I will begin to introduce that term here.

Peer-to-Peer Collaboration

Glaser and Bassok (1989) indicate that conceptual development occurs when the learner internalises cognitive activities within a social setting. Discussion, not only with teachers but also with peers, encourages reflective practice, that is learners who reflect on their own learning, thus creating a classroom culture where discourse about

learning is accepted and conceptual understanding is developed (Black and Wiliam, 1998). Learning is not a cognitive restructuring process alone, but also involves constructing an identity through participation in communities of practice (James *et al.*, 2007). Lave and Wenger (1991) attribute the term 'apprenticeship' to where peers may participate within a community of practice, working together to increase participation and knowledgeability. While peer interaction encourages learners to think about their levels of understanding, this requires social, communication and problem-solving skills. It is the role of the teacher to mediate peer-learning and to encourage reflection. Peer collaboration, however, may not occur naturally in classrooms and may have to be taught so that learners can, in time, take more responsibility for their learning. Peer-assessment provides opportunities for learners to assume some responsibility for assessment, which allows them to reflect on their own work and that of their peers, as this builds higher order thinking skills that allow more complex problems to be tackled (Sluijsmans *et al.*, 2001). This self-reflection and development of higher order thinking skills can aid learners to develop metacognition through the social element of learning, collaboratively working and reflecting with peers (Black *et al.*, 2006). The social interaction, through peer scaffolding and discourse, can develop metacognition through techniques such as reciprocal teaching (Black *et al.*, 2006). Metacognition needs to be understood both inter-personally where peers discuss how to learn and actively engage in collaborative learning, and intra-personally at the level of understanding of each individual learner.

Formative assessment, and the involvement in peer-assessment in particular, are social processes that involve both teacher-learner interaction, and peer-peer

interaction. Written and verbal language is central to the human's capacity to think, and is developed in relationships between people. Therefore, social relationships are necessary for, and must precede, learning (Vygotsky, 1978), however, this is only relevant if learners have learnt how to relate to others prior to engaging in collaborative learning activities. In cases of such learning, as people develop their thinking together it may be understood as a social and collaborative activity. Donaldson and Topping (1996) suggest that peer-assessment encourages learners to become part of a community of scholarship. Peers can act as a sounding board for ideas, to provide support in times of need, to help identify new sources of information and to provide views and judgements (Boud, 2000). Other advantages described are providing learners with a sense of ownership of the assessment process (Bostock, 2000) where learners are encouraged to take responsibility for their own learning, with assessment a part of this, meaning that identified mistakes are not to be seen as failures but as opportunities. These opportunities can be for improvement, practising transferable skills such as evaluation skills that are required for life-long learning, and encouraging deep learning rather than surface learning (Bostock, 2000). Peer-assessment can assist with the development of skills in self-assessment (Bostock, 2000) as learners gain insight into their own performance by judging others' work, and can act as an external evaluator of their own metacognition.

Prøitz (2010) further explains that a focus on metacognition can affect teaching strategies, and goes on to identify a paradigm shift from teachers that are teaching learners, to learners becoming more self-regulated and taking a more active teaching role themselves by participating in various degrees of peer-teaching and peer-

assessment. There is more of a division of labour (Crossouard, 2009) between the teacher and learners, where learners take more responsibility for executing the task and assessing not only their own work, but also the work of their peers, as they progress through the task.

In a task, learners could be in one of the following four groups: no task participation, individual stakeholder engagement, homogenous stakeholder engagement and heterogeneous stakeholder engagement (Bell and Morse, 2010). The regimes and relationships learners have within a class or group can affect the type of participation learners engage in, which in turn can shape a learner's sense of status, affecting what is known as the 'conditions of learning', which influences the sense of commitment to learning in school (Rudduck and Flutter, 2000). Rozenszayn and Assaraf (2011) evaluate research that shows how collaborative learning is only effective when five major components are present, namely interdependence between group members to reach a goal, collective responsibility between group members, reciprocity between learners, sharing social cooperation skills and having the social processes necessary to communicate effectively. Sampson and Clark (2008), however, offer an alternative discussion and state that it is insufficient just to expect learners to benefit from working collaboratively, as learning can also be affected by engagement in the learning processes that occur during collaboration, and some learners will become engrossed in an activity by themselves.

Collaborative learning is not always problem-free as there are numerous barriers that may prevent learners achieving their potential. Some learners may be non-compliant in group participation, for example as a result of 'social loafing'. This 'social loafing'

inhibits effective collaboration, which is problematic, and collaborative inhibition increases when learners work with peers who are not their friends (Rajaram and Pereira-Pasarin, 2010). Hayward and Spencer (2010, p.161) explain these concerns as learning being dependent on "becoming a member of the community of discourse", and how each individual is affected by the interactions within the community. Peer-assisted learning can provide support, encouragement, and both intrinsic and extrinsic rewards, helping them to reduce the gap between what they can do individually and what they could potentially achieve with the help of another. Vygotsky (1987) states that when a more knowledgeable person is in dialogue with a less knowledgeable person inter-mental knowledge is developed within the zone of proximal development, and knowledge can become intra-mental. Learning involves reorganisation of lower psychological functions to form new higher functions whilst emphasising that psychological functions are themselves historical-cultural constructions (Daniels, 2001); that is, in order to assist peers, learners must have some understanding of both the concepts and relevant subject content themselves before being able to interpret and evaluate a peer's work. Peer-assisted learning, in the form of discussion or questioning may help create a scaffolding framework, which when it is within a learner's zone of proximal development may enable the learner to close the gap in what the learner knows and what they could potentially know. Lave and Wenger (1991) describe 'scaffolding' as an explanation of Vygotsky's zone of proximal development (ZPD), of which there are three discrete interpretations. The first interpretation is where a distinction is made between support for the initial performance of tasks and subsequent performance without assistance: the distance between problem-solving abilities exhibited by a learner working alone and that

learner's problem-solving abilities when assisted by or collaborating with more experienced people. A second interpretation of the ZPD is 'cultural', defined as the distance between the cultural knowledge provided by socio-historical content and an individual's everyday experience. A third interpretation takes a 'collectivist' or 'societal' perspective, defined as the distance between an individual's everyday actions and a collectively generated solution to a historically new form of social activity. Lave and Wenger (1991) describe a constitutive element of learning as learners having a peripheral legitimacy of participation, being located in and belonging to the social world. The benefits of learners interacting with each other are that they improve social, communication, and problem-solving skills, their ability to plan and organise work within a timescale, thought-shower ideas and decide what individual and collaborative tasks are to be carried out (James *et al.*, 2007), thus fostering learners' metacognitive skills. When engaged in peer-assessment the learners will be working together with one acting as a more knowledgeable peer that is doing the assessing. The above considerations show how and why working in this way may be helpful to the learners.

Considering the above literature, for the purpose of this thesis I consider formative assessment to be a multi-person process, involving teachers and learners, that is used frequently during teaching and learning episodes. This systematic evaluation focuses on assessing whether particular outcomes have been achieved, the extent to which learners are making progress towards these learning outcomes, and if not, how

learners can change trajectory, enabling them to aid their learning and to make improvements to their work.

Thus, effective formative assessment is a complex intertwining process, with the involvement of the learners in the whole process being crucial. Formative assessment focuses on, and communicates, what is to be learned, with feedback provided that is designed to enhance learning.

2.6 Peer-assessment

I now focus on peer-assessment as a strategic tool within formative-assessment practice as that was the basis of my research. As previously mentioned in the Introduction chapter, my personal rationale for focussing on peer-assessment is due to the interest gained from conducting research as part of the school's LDG. A definition of peer-assessment, and the way in which it is linked to formative assessment are discussed, and although some of the literature relates to learners in primary schools and institutes of higher education, I believe them to be relevant, as the issues discussed can be transferable to learners in secondary education.

Peer-assessment may occur in pairs or it may take place in groups, developing group processes whilst promoting individual learning. Peer-assessment does not occur in isolation from other classroom activities, such as learner talk. Encouraging learners to engage in a learning discourse about their work, and how improvements could be made to it, is a complex process. Peer-assessment should be an integral part of a natural classroom environment, in addition to sharing success criteria with learners,

making use of both classroom questioning, comment-marking, self-assessment and both formative and summative tests (Black and Wiliam, 2009).

There are various views as to what constitutes peer-assessment. Topping *et al.* (2000, p.150) describe one view of peer-assessment, which may be considered as a summative process, involving arrangements "...for peers to consider the level, value, worth, quality or successfulness of the products or outcomes of [the] learning of others of similar status". Sebba *et al.* (2008) also consider how peer-assessment can be summative in nature, with learners employing assessment criteria to evaluate and assess the work of other learners; this is the more formal aspect of peer-assessment.

Peer-assessment can be used formatively to provide feedback to peers, and I will now address the benefit it can have for learners, and how it differs from formative feedback from teachers. Peer-assessment can be, and often is, used formatively, as described by Boud (2000). He reflects upon how peer-assessment is carried out, stating that if the only purpose of peer-assessment is to produce marks, it is just learners replicating a teacher activity. Boud (2000) considers the importance of establishing a learning climate in which the giving and receiving of peer feedback is considered normal with regard to the teaching and learning process. Correctly managed peer-assessment does not replace professional teaching and teacher feedback, but rather, it is complementary to it and should be organised and monitored by teachers (Topping and Ehly, 2001) thus ensuring that learners receive appropriate feedback from their peers, and that the content of the feedback is fully understood.

Black and Wiliam (2009) provide an alternative view of peer-assessment where peer-assessment is presented and described as a process of activating learners as an

instructional resource for one another. This view is supported by Roschelle (1992) who explains that when peers collaborate they share expertise with others in a mutual way. This seems a more rounded and realistic view of what actually occurs in classrooms, as assessment is often more informal in nature. Therefore, peer-assessment can be defined as the assessment of learners by peers providing *both* formative feedback and summative grading (Bostock, 2000).

Resnick (1989) observes that while it is the teacher who usually enacts the higher-order thinking skills on behalf of the learners, such as interpretation and evaluation, learners must also be given opportunities to think, evaluate and reflect. Black and Wiliam (2006) describe how peer-assessment, as opposed to teacher assessment, can be advantageous: when incorporated into lessons it provides opportunities for learners to discuss areas they found more difficult. Glaser and Bassok (1989, p.643) provide a similar explanation to Black and Wiliam (2006), but add that the teacher also provides "expert scaffolding" and peer-assessment makes tasks more manageable, without simplifying the task itself. Glaser and Bassok (1989) explain that, from a cognitive perspective, by learning cooperatively with a peer it allows for explanations to be elicited and points of difficulty to be clarified through a reciprocal teaching relationship. The use of discussion is said to be vital in peer-assessment, and this is different to learners just communicating as it involves them being prepared to examine, and to be responsive to any opinions raised (Bridges, 1998). When learning collaboratively, learners are encouraged to develop social, communication and problem-solving skills that, if focussed on how to learn or what needs to be developed, enables learners to become metacognitively wise (James *et al.*, 2007).

The following section identifies the basis on which learners make their assessments, and how feedback can assist in developing subject or task related learning and metacognition. The investigation of literature relating to these issues allowed me the opportunity to assess the extent that learners in my research both understand, and know how to utilise assessment criteria. This literature also allowed me to compare to what degree the benefits of peer-assessment outlined in the research, in terms of the development of academic, social and life-long learning skills, was evident in my own research.

Lew *et al.* (2008) consider that it is not only on products of work that feedback is provided, but also the processes leading to those products. However, as has previously been discussed, learners must first understand the learning goals and then understand what they need to do to reach them (Black *et al.*, 2002) as when learners understand the success criteria they may be in a position to communicate with peers and provide feedback (Sebba *et al.*, 2008). Bostock (2000) further describes how peer-assessment involves learners in the prior setting of criteria, ensuring that they understand these criteria, select evidence to show achievement, and then make final judgements on the work. This process will empower learners, whereas other forms of assessment may by-pass this.

However, Black and Wiliam (1998) observe that problems can occur when learners have not become accustomed to receiving instruction on how to utilise assessment criteria, and are used to carrying out arbitrary sequences of exercises that have no overarching rationale. Learners become more committed to their learning and are more effective when they have access to clear success criteria and experience of using

them (Black and Wiliam, 1998). Harlen (2005) agrees, acknowledging peer-assessment to be dependent on learners knowing the goals of the work, and the criteria used in assessing it. Learners require access to criteria that they can understand and that are set out in a format that will enable them to be able to successfully access and utilise them, enabling appropriate judgement of a peer's work, both immediately and throughout a task, and subsequent provision of feedback which will allow their peer to make improvements to their work.

Peer-assessment can enable teachers to allow learners to gain assistance in areas where they perceive assistance would be most beneficial to promote learning. It can be valuable for learners to have a dialogue with a peer about the work as it can "raise awareness of hidden possibilities or challenge" (James, 1998, p.177). For learners, it requires that they apply their knowledge and skills to cognitively demanding tasks, to encourage reinforcement and a deeper understanding of the curriculum content. For this to be successful, however, teachers must ensure that learners understand the assessment criteria and the context of the task otherwise the peer-assessment would not be productive as they would not be able to assist each other.

Learners should be encouraged to keep the goals of the work in mind, as assessing their own work as they proceed allows them to become more independent and so more easily able to recognise standards in peers' work. The quality and accuracy of the feedback provided will be determined by the learner's understanding of the assessment criteria (Black and Wiliam, 2009). If learners do not have access to clear assessment criteria for assessing a peer's work, then peer-assessment would not be feasible, and it would prove to be an ineffective activity. But are assessment criteria

the only resources learners require when carrying out peer-assessment, and are they always sufficient? There are occasions where simply sharing the assessment criteria may not be sufficient for learners to grasp what they must achieve. In these instances, more time must be spent on helping learners understand what they must do. James (1998) further explains that learners must have access to material, such as examples of assessed work, so that the desired standards of achievement can be observed in practice. In addition, evidence of work that has shortcomings and mistakes are also of use to learners so that they can identify unacceptable work. In peer-assessment, learners would be able to better identify how well a peer has achieved if they have model materials for comparison.

When learners are guided, or an activity is facilitated by the teacher, they can learn to collaborate and provide feedback to each other on their learning, take greater responsibility for sustaining discussion, contribute and build on each other's ideas, reflect on their own learning, consider the progress they make towards personal targets, and feel a sense of achievement (DfES, 2004a). Mercer *et al.* (2004) also suggest that when learners work in pairs or groups, their interactions are more 'symmetrical' than those of teacher-learner discourse, and have different opportunities for developing reasoned arguments and describing events.

James *et al.* (2007) describe benefits of collaborative learning where research carried out by the Teaching and Learning Research Programme is outlined. She confirms that learners are encouraged to think about their understanding when participating in group activities. Knapp (2010) corroborates her findings and believes collaborative peer learning to be a fundamental process of knowledge construction, occasioning

development of shared understandings and shared cognition, which is defined as shared cognitive structures and processes within a group.

If engagement in peer-assessment improves learners' attitudes to learning, it has a cascading effect where learners improve academic skills as they become more involved in discussions, and so are more likely to explain their work, and review and reflect upon mistakes (Sebba *et al.*, 2008). By being actively engaged in lessons, of which peer-assessment is an essential part, learners may have fewer behavioural problems and longer concentration spans (DfES, 2004b) and so are more on-task and motivated to improve literacy and numeracy skills such as sight-word reading new reading material, comprehension abilities, spelling and basic mathematics skills (Okilwa and Shelby, 2010), with a similar impact in other curriculum subjects too. In addition to improved academic skill development, engagement in peer-assessment has also been documented to improve social skills such as improved learner behaviour, social interactions and relationships, thus learners make more friends (Okilwa and Shelby, 2010).

It is noted by Ballantyne *et al.* (2002) and Wiliam *et al.* (2004) that the use of peer-assessment with large classes may be practically beneficial not only to learners, but also to teachers. All learners receive some feedback on their work, something that is more difficult and time consuming if only the teacher is feeding back to learners. A peer can take this role and act as a critical friend, enabling learners to support and encourage each other. Although peer-assessment may be time consuming as teachers must provide support as the learners learn to use peer-assessment appropriately and effectively, peer-assessment offers opportunities for teachers to promote the

development of learners' self-regulation, which may improve metacognitive skills, as is later discussed in the sections relating to learners' self-assessment.

Active engagement in peer-assessment can prove beneficial in terms of developing skills that may be useful in the future. Sebba *et al.* (2008) have observed that peer-assessment can prepare learners for their futures, as if they engage effectively in peer-assessment it could help learners adapt to whatever challenges they may face in the future. In terms of developing lifelong learning, peer-assessment enables learners to develop their skills in analysis, evaluation and reflective practice (Sebba *et al.*, 2008). When learners know more about, participate in, and make decisions about their learning they are more likely to be able to direct their own learning in the future. Although it may be initially difficult in terms of commitment and organisation, "peer observation, peer audit, moderation and agreement trials" (James, 1998, p.94) would help in triangulation and assessing learners' work as it provides multiple assessments that can be compared, which will potentially improve the reliability of the final assessment.

2.7 Self-assessment

The following section identifies the importance of learners working together and discussing issues pertinent to their learning. The importance of how the development of peer-assessment relates to self-assessment is also discussed. Through investigation of how research regards the relationship between peer-assessment and self-

assessment to be influential and advantageous I was then able to evaluate how peer-assessment affects learners' self-assessment in my own research.

Black *et al.* (2001) observe that peer-assessment can encourage learners to become more active and responsible as they become involved in expressing their thinking to peers. Furthermore, Black *et al.* (2006) consider peer-assessment to be a strategy which can assist learners in developing their own capacity to learn, and to develop high levels of autonomy and independence. When learners engage with each other and discuss their learning, receiving immediate attention and feedback, it is described by Okilwa and Shelby (2010) as peer tutoring. They state that the teacher moves from a position of deliverer of instruction to more of a facilitator of learning, and the learners then have less of an opportunity to become involved in exhibiting undesirable behaviours as the teacher can focus on classroom management, and check what is being learnt as learners are encouraged to take charge of their own learning. It could be argued that if learners are motivated and engaged in their learning, poor behaviour is unlikely to be an issue.

However, discourse between peers may be challenging, and if learners are to work effectively with others, they must first develop skills of self-assessment (Sebba *et al.*, 2008). Indeed, in 1999-2002 the King's, Medway and Oxfordshire Formative Assessment Project (KMOFAP) described how self-assessment is an important complement to peer-assessment (James *et al.*, 2007) as the natural occurrence of learners' self-assessment, in addition to self-assessment activities directed by a teacher, builds their self-awareness and they develop an ownership of the learning process by learning how to learn.

Gipps (1994) recommends the promotion of self-assessment in lessons, which could further enable learners to understand the marking criteria and encourage them to reflect on their strengths and weaknesses, through discussion not only with their teacher, but amongst peers. It has also been observed that the practice of self-assessment can assist in promoting independent learning as learners take more responsibility for their own progress (DfES, 2004c). James (1998) agrees with this but states that for self-assessment to be effective in engendering independence in learning, learners' metacognitive skills must be developed, and although initially this may take time away from teaching subject content it is likely to have long-term positive effects in raising achievement and levels of attainment.

But what evidence is there that engagement in self-assessment activities yields positive results? A range of experimental studies by Delclos and Harrington (1991), McCurdy and Shapiro (1992), Sawyer *et al.* (1992) and Fontana and Fernandes (1994) show that learners engaged in self-assessment practices were more successful than learners who did not. When learners engaged in self-assessment, Fontana and Fernandes (1994) observed that they demonstrated more significant gains than learners from a control group that did not focus on self-assessment. Learners engaging in self-assessment increase their critical ability, confidence and independence as individuals (Falchikov, 1986), which deepens understanding and develops their capacity to engage in dialogues with peers (Cowan, 1991). It is through the process of assessing a peer's work that the assessor can increase their knowledge of how to develop learning themselves. If learners can develop self-assessment and self-regulation, whereby they are more independent in facilitating their own learning,

they will become more engaged and build confidence in discussing work with peers, and when beginning new tasks they may have a greater awareness of the objectives and success criteria against which they will be assessed. Any *post hoc* reflection allows transferable skills to be developed and provides both greater metacognitive self-awareness, and also the skills needed to be able to engage in self-assessment in new situations (Topping *et al.*, 2000).

2.8 Factors Affecting Peer-assessment

There are factors that can prevent peer-assessment from achieving its full potential. It seems that when introduced within the classroom peer-assessment may result in learners feeling a lack of confidence both in their own, and their peers', abilities to assess work (Ballantyne *et al.*, 2002). Feelings associated with the process of peer-assessment may provide reasons as to why it may not be successful. Learners may lack confidence, to differing degrees in different subjects, in not only their own ability to assess work, but in the abilities of peers assessing their work. The principal reason given for this is they do not think themselves suitably qualified to undertake such assessments (Orsmond *et al.*, 1997), particularly when they are asked to make summative assessments. Boud *et al.* (1999) observe that if peer-assessment is not implemented sensitively, it can inhibit the process that it is designed to enhance. It could provide a control mechanism exercised by the knowledge-providers over learners and it too easily locates responsibility for making judgements in the hands of others.

The following sections indicate factors that have been identified as having an impact on the effectiveness of peer-assessment. I investigated what research pertains to be important in the categories of self-esteem, motivation and learning environment, and how these affect peer-assessment. Through investigating these categories and how they affect peer-assessment I was then able to evaluate the extent to which these categories were evident and are affecting the case study school in my own research.

Peer-assessment and Self-esteem

Burns (1982) explains how academic performance can improve if learners are involved in respectful relationships and a supportive ethos. Teaching is more effective when the teacher not only focuses on development of knowledge, skills, and understanding, but also on the learner's affective state (Lawrence, 1996). The quality of interpersonal relationships, which affect how a person feels, is dependent upon the degree to which individuals live up to the expectations of others (Mosley and Tew, 1999) and is an evaluation of the measure of the extent of discrepancy between self-image and ideal self (Lawrence, 1996). A learner's self-attribution is where they form conclusions about themselves from the observation of their own success, or failure, of their efforts, which in turn has a causal effect on their self-esteem (Rosenberg *et al.* 1989). If peer relationships can provide opportunities for individuals feeling worthwhile and responsible, it can develop levels of confidence, which in turn may enhance motivation. Poor relationships may lead to loss of self-worth, which can then lead to poorer standards of behaviour such as hostility and aggression, feelings of frustration,

attention-seeking behaviours and feelings of alienation and isolation (Mosley and Tew, 1999).

The grades a learner attains have been shown to have a significant effect on a learner's self-esteem or ego: when learners value the achievement they have made, it produces more favourable self-appraisals, social comparisons and self-attributions, whereas poorer academic achievement has been shown to have the opposite effect (Rosenberg *et al.*, 1989). In seeking to alleviate painful feelings of doubt about self-worth, learners may look for opportunities to create episodes of self-enhancement, however, such occurrences have found learners to present more delinquent behaviour in preference to maximising effort in school work (Rosenberg *et al.*, 1989).

Peer-assessment is described as being "uniquely valuable" (Black *et al.*, 2002, p.10) as learners may accept criticisms from one another, whereas if these criticisms were made by the teacher they may not be taken on-board. Feedback from learners, as opposed to coming from the teacher, is less emotionally 'loaded' as it is not from anyone in authority, making it easier to accept (Black *et al.*, 2003). Black *et al.* (2003) also state that learners, after asking for clarification of feedback from a teacher twice, would be likely to pretend that they understood when in fact they did not. One of the reasons given for this included learners perceiving that they were monopolising the teacher's time. In comparison, learners were more readily challenging peers, interrupting the peer's explanation, asking them to repeat something, allowing learners to feel more comfortable in the learning situation, improving the levels of understanding and the employment of effective learning strategies. Black *et al.* (2003) also describe how some learners cared more about communicating with their peers,

and there was a notable difference in the neatness of the written work, mathematics or art work presented to peers. Learners learn by taking on the roles of teachers and examiners. Therefore, the teacher is free to observe and reflect upon the learning taking place, and intervene where necessary.

Learners' abilities to read and write may influence written peer-assessment in that peers may not understand other learners' writing, or may not be able to read another learner's writing due to it being illegible, or written conveying ideas which the peer is not able to understand. Poor readers in particular may show traits of learned helplessness where they develop low self-concepts of ability and have a lower expectance of success following failure in a task (Butkowosky and Willows, 1980). Therefore, it seems likely that reading and writing abilities and levels of understanding could have an impact upon learners' levels of self-esteem, and their motivation to engage in written peer-assessment. A learner's self-esteem may exhibit intra-variable differences as a person may feel differently on different days, even when they are located in a similar learning environment and in similar social settings. The notion of self-esteem is very subjective, and self-image and self-worth may differ depending on external factors such as a learner's home life, or even their hormonal state.

Peer-assessment and Motivation

Ramsden (1992) explains that the same learner, when presented with different learning contexts, may adopt different approaches to learning depending on how demanding the learner perceives the tasks to be. Marton and Säljö (2005) observe

that learners' levels of motivation and the demand structure of the learning situation will influence their approaches to learning, adopting a 'deep' or shallow 'surface' approach. A deep approach to learning is supported by formative assessment which encourages conceptual understanding and is characterised by consolidation of learning and corrective feedback to promote self-evaluation and self-improvement. Learners adopting a surface approach to learning often engage in factual memorisation which is often short term in respect to the memory being short-lived: surface-learners learn just enough in order to gain credit and move on (Basioudis and de Lange, 2004). What type of motivation may produce such different learning approaches? Marton and Säljö (2005) explain that a 'deep' approach to learning can be expected from learners who are intrinsically motivated. A 'surface' approach to learning is, in some cases, adopted when learners are extrinsically motivated to learn that which is expected of them by others, such as teachers, or for an examination. Topping *et al.* (2000) suggested that peer-assessment may increase motivation as learners feel a sense of ownership and personal responsibility. They engage in activity and inter-activity, build levels of self-confidence, identify and bond and have empathy with others. If peer-assessment has the potential to develop critical ability, confidence and independence, as previously mentioned (Falchikov, 1995), then it is possible that learners' levels of intrinsic motivation will increase and 'deep' learning can be promoted. There are further questions here as to what may affect the motivation of the learner, what constitutes either 'surface' or 'deep' learning and whether or not teachers within schools consciously foster deep approaches to learning.

As learners' motivation can be affected by their 'cognitive drive', which is how interesting learners perceive a task to be (Ausubel, 1968), study material should be linked to areas of learners' interests to improve such intrinsic motivation (Fransson, 1977). Howe (1999) states that there may be differences in levels of intrinsic motivation, with more mature and independent learners having higher levels of this from the outset.

Learners' motivation may be outside the teachers' control (Howe, 1999) with influences from family or peers affecting the teachers' ability to motivate, thus affecting the cognitive drive. A learner's 'self-efficacy' (Bandura, 1997), which is a self-belief in the power to succeed, may affect their motivation, again with social factors contributing to this. Negative self-efficacy may be a product of anxiety resulting from parental expectations or home-life situations, with feelings of fear and apprehension; this is one of the social factors that may affect learners' motivation and that teachers have limited, or no, control over (Santrock, 2004). The development of social relationships with parents, peers, friends and teachers may be affected by demographic characteristics, child-rearing practices and home experiences, and these relationships may affect motivation, and thus, academic achievement (Santrock, 2004). Van de gaer *et al.* (2009) presents an additional view that learners' motivation may be linked to physiological and psychological changes that occur during puberty. The importance of learning may decline, but be directed towards new fields of interest as learners begin to discover a wider world.

Boud *et al.* (1999), in their discussion of learners in higher education, observe that when working collaboratively with others they develop increased responsibility for their own learning and a greater understanding of the course content which they are studying. Hanrahan and Isaacs (2001, p.53) outline that many higher education courses require learners to develop life skills such as the ability to work in a team, and contribute constructively and collaboratively, which are skills inherent within the culture of "lifelong learning". There is also potential to improve a range of social skills, including communication skills, negotiation, the ability to accept criticism, and to develop transferable skills such as diplomacy, justification and objectivity (Topping *et al.*, 2000). Learners become critical and more independent in their learning and it is assumed that they will be accurate and fair in their assessment, with a teacher's role being to provide consistency across groups and individuals (Boud *et al.*, 1999) and to correct misconceptions. Topping *et al.* (2000) also observe that active engagement in peer-assessment has the potential to allow early diagnosis of errors or misconceptions, through which thorough analysis can allow cognitive restructuring with regard to explanations and re-organisations of work.

Learners' learning preferences and their levels of attainment may be influenced by the teaching approach used (Gijbels and Dochy, 2006). Furthermore, learners' metacognitive knowledge and their understanding of their learning environment, such as the teaching methods and assessment strategies employed, may allow for adjustments in approaches to learning (Anderson *et al.*, 2001). Learners can "activate

the relevant situations, conditional or cultural knowledge for solving a problem in a certain context" (Anderson *et al.*, 2001, p.44), thus "adapt the ways in which they think and operate" (Krathwohl, 2002, p.214). Therefore, there may be varying degrees of participation in peer-assessment from both the peers offering feedback and from peers accepting feedback, depending on the learning environment and learners' levels of metacognitive thinking.

Peer-assessments should be used formatively with continuous dialogue used throughout the process that communicates the achievements made on the work to-date. Peer-assessment can be implemented in developmental stages, rather than at the end of a process when it is often too late, and thus peer-assessment can be used to engender a reflexive involvement. This would encourage learners to express difficulties experienced as the lesson progresses, and then seek help on this. Additional ways in which peer-assessment can be carried out, in a more flexible environment, as described by Clarke (2005) includes:

- Learners, either as a group or in pairs, analyse an anonymous piece of work and decide if the success criteria have been met, or whether it could be improved. If two pieces of anonymous work are provided, they can be asked which more effectively fulfils the criteria;

- Pairs either swap their own work or demonstrate practical work, if this is possible, and discuss if they are meeting the success criteria;

- Talking with partners allows learners to think about and articulate ideas with peers.

Often developing a learning environment with stimulating discussion may prevent what may be a barrier to discourse between peers. For example, concept cartoons (Chin and Teou, 2009) can stimulate a focussed discussion where the risk of expressing personal viewpoints can be reduced by assigning ideas to the cartoon characters rather than to themselves, and learners learn to communicate to clarify and restructure ideas. Although the study described by Chin and Teou was with older children in a primary school setting, such ways of stimulating discussion would still be relevant to secondary school learners as it may motivate them to be more engaged in discussions by using this type of stimulating material.

The learning environment created when learners engage with peer-assessment is related to achieving positive outcomes for those learners. The teacher must act as an in-control facilitator, and help learners develop ways to give effective feedback (Sebba *et al.*, 2008). Topping *et al.*, (2000) consider that finding time to incorporate peer-assessment within a crowded curriculum may be problematic, and add that dissemination of methodologies and results amongst practitioners that are researching peer-assessment may be of use. There must be a "cost-benefit balance" for both learners and teachers, where "the benefits must outweigh the costs for all concerned, with costs measured in terms of time devoted, materials and other resources, and the stress involved in doing anything new" (Topping and Ehly, 2001, p.121). Carless (2006) also identifies that some teachers, although acknowledging the benefits of peer-assessment, are conscious that it may be time-consuming to carry out and learners may not conduct it successfully (Carless, 2005). This could be because it is not part of

common practice in the classroom and, therefore, something that should be improved upon in the school.

Hanrahan and Isaacs (2001) describe the benefits of peer-assessment to teachers by possibly decreasing the amount of both oral and written feedback, as peers may already have identified areas for improvement. This makes the task of teacher-marking less time-consuming, arduous and overwhelming, and the comments teachers do then provide have the potential to be better quality comments.

Learners' motivation may be increased if they feel a sense of autonomy, independence, self-determination and have positive social interaction. Motivation may decline if the learning environment has excessive rules and poor learner-teacher relationships. Lawrence (1996) further adds that the way in which the teacher communicates with learners may affect learners' self-esteem. Verbal communications may enhance or reduce self-esteem, although this may be dependent on the quality or the content of these communications and may be affected by pause in speech, tone and speed of speech. Non-verbal communications may be less obvious but may include body posture, eye contact and gestures, with each factor influencing how the learners feel in their environment. Effects such as these may affect the engagement of learners in peer-assessment if learners do not feel comfortable or safe, or have low self-esteem. Edmondson (1999) describes how engagement in learning behaviour when working with others is highly dependent on their psychological safety.

2.9 Concluding Remarks

The literature search has revealed much about how peer-assessment can be used effectively in school. My feeling prior to studying the data in detail, as a teacher in the case study school, was that peer-assessment was not used as effectively as it might be. Topping *et al.* (2000) observe that a lack of involvement in peer-assessment may be because peer-assessment is seen as time-consuming, intellectually challenging or socially uncomfortable. A positive impact on a learner's progress is more likely when they become less dependent on the teacher and develop more interdependent relationships (Sebba *et al.,* 2008). However, for peer-assessment to be used effectively in classrooms, it is not only learners that need to be aware of how to use peer-assessment, but also the teachers and other members of staff, such as teaching assistants. Teachers must be appropriately trained in both initial teacher training and through continuing professional development so that peer-assessment can be effectively embedded in classroom routines (Sebba *et al.,* 2008). Initial teacher training programmes are considered the most suitable place to provide such training, and if teachers are trained the benefits of peer-assessment would come into fruition as learners would also be instructed in how to conduct such activities (Okilwa and Shelby, 2010).

Although there have been numerous studies carried out with learners in higher education (for example, Brindley and Scoffield (1998), Topping *et al.* (2000) and Ballantyne *et al.* (2002)), this study aimed to generate greater insights into peer-assessment within a secondary school, and create a basis for discussion into how learners interact in a process of peer-assessment. As Hodkinson and Macleod (2010)

state that there are sociocultural factors that affect not only cognition, but also learning, it was investigated whether sociocultural factors affect interaction of learners in peer-assessment, and how effective peer-assessment is in classrooms.

2.10 Research Questions

Based on the review of literature relating to peer-assessment, there are differences in the effectiveness of peer-assessment, which may be due to the differing ages of learners, their enjoyment and motivation of different curriculum subjects, and the learners' attainment, all which may affect how engaged learners are with regard to peer-assessment. To gain a deeper perspective on such factors and the effectiveness of peer-assessment, the following questions were devised.

Question 1: How effective is the use of peer-assessment in the classroom within the case study school?

- **How effective is planning for the use of peer-assessment in classrooms?**
- **Do teachers find implementing peer-assessment feasible?**

How effective is peer-assessment and does it differ between classes, teachers or individual learners? I questioned how effective the use of peer-assessment in the classroom is, and I was interested in ascertaining how different teachers in different curriculum subjects incorporate peer-assessment in their lessons.

Question 2: What values do learners and teachers in the case study school place on peer-assessment?

It seems from the literature that the outcomes of peer-assessment can be expected to be very positive, but is this always the case? Are there differences in opinions between teachers and learners, or between different teachers or different learners?

Question 3: Do teachers perceive any barriers to using peer-assessment in lessons?

What strategies are effective, and are they effective for every age of learner in secondary education, and for every curriculum subject, both those embedded within the national curriculum for KS3 and those learners may opt to study as option subjects at key stage 4 and beyond? What factors either promote the use of effective peer-assessment, or perhaps hinder it?

The following Methodology chapter will discuss which methodological approach was the most suitable to address these research questions.

Chapter 3: Methodology

3.1 Research Paradigms

As a scientist, I am trained in providing logical solutions to explain phenomena which is in line with the positivist view, while as a teacher, I know that there is a requirement to understand social implications, a view shared by interpretivists. As teaching and learning involve human interactions that are too complex for a 'law' to be assigned and as in a school there is a variety of contexts, for example the different curricular areas, classrooms, teachers and learners, a positivist approach was not appropriate for this research.

In schools cause-effect relationships are not always easy to ascertain (Wellington, 2000) as the complexities of human behaviour are too intricate to understand in the simplistic hypothesis-testing approach adopted by positivists (Cohen *et al.*, 2011). Noblit (2004) further observes that positivism is frequently inappropriately applied to social and cultural contexts because social life is subjective and socially constructed, giving further explanation why positivism was inappropriate for this research. Cohen *et al.* (2011) explain how the social scientist observes the social reality and then explains findings. Social life is subjective, socially constructed and not governed by empirical laws. Human behaviour is not predictable, therefore, a more appropriate research paradigm is interpretivism, which is the study of all phenomena using communication, symbols and language in the interpretation of the phenomena under investigation (Bürgess *et al.*, 2006). Research in this paradigm is dependent on the inter-subjectivity between people, as human behaviour is not static (Merriam, 1995)

and realities are not abstract. Therefore, interpretivism is a more relevant position for this research as, although numerical data are used, the findings only reveal their meaning when analysed with a deep understanding of the research site, and context supplied to explain observed phenomena.

In interpretivism, efforts are made to understand the person from within, and give meaning to behaviour (Cohen *et al.*, 2011). Theory emerges as insight into human behaviour developed for the participants in my research at a particular point in time (Cohen *et al.*, 2011). As a teacher I need to understand social implications, and so researchers adopting an interpretivist perspective, when working with learners, understand that no two children are ever the same and 'laws' (Winter, 1987) can rarely be used to include all learners in all social settings. From the interpretivist perspective, I viewed reality as neither absolute nor abstract, mainly because people and situations differ (Burgess *et al.*, 2006).

In my research I generated theories, based on observed reality, which is a human construct (Wellington, 2000). I also explored perspectives and developed meanings; i.e. *a posteriori* (Wellington, 2000). Modern science cannot always provide a theory of causality and as science is itself not without contradictions, I tried to be open-minded.

As scientific and humanistic approaches are not mutually exclusive, a complementarity approach (Husen, 1997) seemed to be the most suitable for my research as quantitative approaches were used in addition to qualitative approaches, yet they were viewed from the interpretivist perspective by providing answers about the social

situation in the school. This mixed-method approach allowed for triangulation of results (Cohen *et al.*, 2011), that is studying the same phenomena using different research methods. Triangulation allowed me the opportunity to look for compatible findings between data generated, lending credibility to the findings being developed when the different methods come to the same or similar conclusion (Schutz *et al.*, 2004b). Therefore, triangulation allowed me to exploit the assets of each method and neutralise weaknesses. Triangulation is also discussed later in reference to the validity of the research.

No research is without its issues, and Orland-Barak (2002) states a dilemma I found myself, which concerns developing a researcher identity. It is emphasised that any issues that arose were not ignored, but rather the issues encountered were identified and named, and the fieldwork should be viewed as it is - a series of complex choices and decisions.

My research design developed as I sought ways to explore the research field described in the Introduction and find evidence in order to answer my research questions. It became clear that a case study approach was going to yield the evidence that I required and the design became an iterative process. Firstly, I will outline why a case study seemed to me to be the best methodology for my research, and then I will go on to give specific details of the iterative process.

3.2 Case Study

Advantages of Case Studies

A case study approach seemed to be an appropriate option when considering the research design as I was investigating learners and teachers in real situations, and case studies can provide an insight into real people in real contexts (Burgess *et al.*, 2006). Adelman *et al.* (1980) documented a number of advantages of case studies:

- The attention to the subtlety and complexity of the case in its own right;
- The recognition of the complexity of social truths;
- The insights generated can provide feedback that may be put to use immediately for staff or individual development.

A case study allowed me to answer focused questions by closely examining people, topics and issues (Hays, 2004). It also provided me with the "opportunity to observe and analyse a phenomenon previously inaccessible to social science inquiry" (Yin, 2004, p.48), that is peer-assessment in the research site, and illuminates a decision, or a set of decisions, asking why were the decisions taken, how were the decisions implemented and what were the results of these decisions (Schramm, 1971). In contrast to exploratory studies, which focus on 'what' questions and lead to the development of pertinent hypotheses, case studies focus upon 'how' and 'why' questions that are explanatory in nature (Yin, 2004), and utilise research methods that generate data which promote 'thick' and detailed descriptions (Bartlett *et al.*, 2001).

The importance of this case study was to understand the views of teachers and learners with regard to peer-assessment, focusing on real people in real settings doing real things (Pryor and Crossouard, 2005). Therefore, it allowed me to understand the social world from within as I was affiliated with the research site (Burrell and Morgan, 1979).

Case studies can involve using different types of evidence to provide the best possible answer to the research questions (Burgess *et al.*, 2006). Stake (1994) acknowledges that the sources of evidence generated within case study designs can be qualitative or quantitative in nature, or a mixture of both. Creswell (2009, p.98), however, observes that the employment of mixed methods in traditional designs, such as case studies, is still an "emerging trend", but observes that case studies are defined by interest in a particular phenomenon, "not by the methods of inquiry used." Specific detail on the iterative process and design of the Methodology are now explained.

Research Instruments

In this section of the thesis the research methods employed within the case study, a questionnaire, lesson observations and interviews, are discussed.

A negative aspect of employing questionnaires is that they cannot be tailored to individual circumstances, hence lack the sensitivity needed to explore differences and consistency, and provide meaning (Stroh, 2000). However, questionnaires were chosen as a data collection method as although they can be restrictive if they do not allow participants to explain their opinions in detail (Morgan, 2009), they do provide a

snapshot of participants' views, in this case, regarding the effectiveness of peer-assessment. If the circumstances allow, questionnaires are the best method to gain information directly and quickly from all learners, as Morgan (2009) describes, so long as the questionnaires and the questions within them are not restrictive in structure, as is later described, or too long. Questionnaires also do not always allow for immediate follow-up if analysis is time consuming. What questionnaires will allow, however, is to identify areas or themes for further investigation, perhaps even with the same participants if they give their permission on the questionnaire for this to occur.

Observations were employed as they offer direct access to events and interactions (Simpson and Tuson, 1995) and can obtain information that could be inaccessible from questionnaires or through interviews. Observations allow for the documentation of rich, complex, detailed accounts of social interactions. It is noted, however, that observations require a variety of skills from the observer, such as sustained concentration, categorisation, and recording skills (Simpson and Tuson, 1995). The observations involved different recording systems as discussed below (Simpson and Tuson, 1995):

- Descriptive recording, using both description and narrative records in the form of field notes;
- Recording, using video cameras with built-in microphones.

Interviewing participants can reveal attitudes and opinions (Burgess *et al.*, 2006), personal insights into situations such as teachers' and learners' attitudes and experiences (Yin, 1989), and they can also provide a more personal element to the research through face-to-face contact (Denscombe, 1984). To maintain the integrity of

the research I must make an effort in an interview to "get inside the person and understand them from within" (Cohen *et al.*, 1994, p.17), although I acknowledge that this would be more difficult to accomplish when conducting group interviews than interviews with one respondent only.

It is more difficult to conduct research with participants from other schools as they may make assumptions that you know certain facts and so omit this information from interviews (Platt, 1981). Therefore, it was advantageous to conduct interviews as an insider researcher, as I was more likely to know contextual information that participants may omit. In this thesis I have made this knowledge apparent to readers so that they are fully aware of the context from which the data are generated. However, I acknowledge that insider research is not without its drawbacks and I hoped to ask the 'obvious' questions, share prior experiences, not make assumptions and not take anything for granted (Mercer, 2007). As an insider researcher my "extensive and intimate knowledge of the culture" has enriched the research (Hawkins, 1990, p.417).

Participants and Sampling Strategy

Both teachers *and* learners were participants in this research and their perceptions of peer-assessment were gauged. Ruddock and Flutter (2000) advocate eliciting learners' views but also state learners may have limitations in that they may not be able to engage in a systematic sense of what may need to be changed or improved in their curriculum, or its implementation. This could be because they may be limited in being able to describe the curriculum content. What learners can provide, however, is what they say incidentally about how particular lessons are delivered: this information can

be used as a commentary on curriculum delivery and on the assumptions that underpin it. 'Pupil Voice' is also identified as an area of focus by both the Economic and Social Research Council (ESRC), funded by the Consulting Pupils Network as part of its Teaching and Learning Research Programme (TLRP), and also the UK government in its introduction of citizenship education (Rudduck and Flutter, 2000). When learners are not perceived as passive objects, they can participate in interviews as they potentially have huge contributions to make by providing their 'Pupil' or 'Learner' Voice (Rudduck and Flutter, 2000) in the evaluation of classroom policies and practices (Rudduck, 2005).

A non-probability convenience sample was the most suitable option focusing on the secondary school where I am employed. Wellington (2000) also acknowledges that work-place research may generate a higher response rate as it takes advantage of personal contacts. The disadvantage of this is that the sample may not be representative of the learners and teachers in the school if participants choose not to participate due to personal reasons, therefore, this may generate an element of bias. In Bryman's (2008) reflection upon this issue, he observes that it may provide a "springboard" for further research. The advantage of working with volunteer teachers who were eager to engage and participate in the research is significant as it shows that if they were willing to discuss the negative aspects of the school's policies, it is likely that it would have been an even more problematic issue for teachers who were not willing to participate.

A sample of convenience (Brewer and Hunter, 1989) was chosen for observations due to several factors: the availability of rooming to ensure that it best minimised noise

from, and to, any other class; the availability of recording equipment and the technicians required to operate the equipment; and the willingness of the teachers to take part in the research. Greater detail into the participants is explained in the section that describes the iterative process.

Ethics

As a teacher in the case study school I had a Criminal Records Bureau (CRB) check which ensured my suitability to work with children. In both the observations and interviews, a video camera was used in addition to my own field notes. The video recorder was operated by a recording technician who was a member of the school staff, who also had a CRB clearance.

The participants were made aware of that a video recorder would be used at the outset of the research as part of the informed consent (Appendices 2 and 3). Learners participating required permission from their parents/carers who signed the informed consent form on their behalf. It was made clear in the letters to parents that participants would be anonymous in the research, and their personal details would be confidential. Participants could withdraw from the research at any time without having to give a reason.

All participants were able to validate the transcripts of interviews, however, only teachers chose to participate in this. Although the teachers' names were anonymised, to put the participant into context the subject they taught formed part of their identification in the analysis and reporting of the data. In knowing this, all teachers

indicated that they were happy for their responses to be included, showing how significant these data are as they gave permission to include information they perceived as being critical of the school in addition to positive comments. In the preliminary and follow-up interviews all participant learners were anonymised and referred to by an alphabetical letter. In the final interviews the subject the learner had been observed in formed part of their identification, putting their responses into context.

All BERA (2011) guidelines were conformed to and no participant exhibited any distress, but had that occurred steps would have been taken to minimise that distress.

3.3 Studying the Case - an Iterative Process

Initially I focussed my methodology on quantitative aspects of design as I was most comfortable and competent with these, but after receiving feedback during the beginning of my doctorate I realised that my questions would only be investigated and answered effectively using mainly qualitative research. I decided that the research data for my case study would comprise both qualitative and quantitative data. I would collect data from observations and interviews with teachers and learners and from a questionnaire administered to learners. All data collected would complement each other and be employed for purposes of triangulation.

The research questions will be investigated in the following ways, as described in Table 1, which is then followed by an account of how the research developed. Greater detail

relating to the numbers and proportions of participants will be discussed with a summary of numbers of participants shown in Table 2.

Table 1: A table showing how the research questions will be addressed

Research Question	Attitude Questionnaires with Learners	Observations with Learners	Interviews with	
			Learners	Teachers
Question 1: How effective is the use of peer-assessment in the classroom within the case study school? ▪ How effective is planning for the use of peer-assessment in classrooms? ▪ Do teachers find implementing peer-assessment feasible?	✓	✓	✓	✓
Question 2: What values do learners and teachers in the case study school place on peer-assessment?	✓	✓	✓	✓
Question 3: Do teachers perceive any barriers to using peer-assessment in lessons?		✓	✓	✓

Table 2: A summary of the context of data collection methods

Stage of the Research and its Focus	Participants	Number of Participating Teachers	Numbers of Participating Learners
Initial teacher group interviews, January 2009: To ascertain the regularity of formative assessment practices in use	Teachers	9	N/A
Preliminary observation, June2009: To establish the use of peer-assessment in science lessons	Year 8 learners Set 4 Year 8 learners Set 5	1 1	8 9
Preliminary learner group interviews, June 2009: To deepen understanding of peer-assessment in science lessons	Year 8 learners Set 4 Year 8 learners Set 5	N/A	8 9
Follow-up observations, December 2009: To follow-up on preliminary observations of science lessons	Year 8 learners Set 4 Year 8 learners Set 5	1 1	8 9
Follow-up group interviews, December 2009: To follow-up on preliminary interviews with learners of science lessons	Year 8 learners, Sets 4 and 5 together	N/A	2

Stage of the Research and its Focus	Participants	Number of Participating Teachers	Numbers of Participating Learners
Follow-up group interview, December 2009: To follow-up on preliminary interviews with teachers of science lessons	Teachers	3	N/A
Attitude questionnaire, July 2010: To gauge the opinions of peer-assessment from a larger sample and over all curriculum areas than previously observed and interviewed	Learners in all year groups	N/A	153
Final observations of classes, February/March 2011: To establish the use of peer-assessment across curriculum subjects	Year 7, Band 1, Science Year 7, Mixed ability, Girls' Dance Year 8, Band 3, Music Year 9, Band 4, ICT Year 10, Band 1, Mathematics Year 10, Option Group, Spanish Year 11, Option Group, Art Year 11, Option Group, Health and Social Care	1 1 1 1 + 1 support staff 1 1 1 1	30 16 17 12 23 14 7 15
Final group interviews, February/March 2011: To deepen understanding of peer-assessment in different curriculum	Learners in Year 7, Band 1, Science Learners from the final observed classes of Music, ICT, Mathematics, Spanish, Art and Health and Social	N/A N/A	6 9

Stage of the Research and its Focus	Participants	Number of Participating Teachers	Numbers of Participating Learners
subjects	Care		
Final group interview, February/March 2011: To deepen understanding of peer-assessment in different curriculum subjects	Teachers from all classes in the final observations	8	N/A

Initial Interviews with Teachers

Initial interviews were conducted with nine members of teaching staff in 2009 (see Table 2), which represented 15% of the teaching staff in the case study school. The content of these interviews was to ascertain which formative assessment strategies teachers used, how often, and for which pieces of learners' work. The interviews were also employed to gauge opinions on the school's policy and training on the use of formative assessment, of which peer-assessment was a facet.

A range of interview strategies that may be employed in research are summarised by Cohen *et al.* (2011) and Burgess *et al.* (2006). These include non-directive questioning, focus group, unstructured, semi-structured interviews and structured interviews. Although not always the case, these interview types may not allow individual respondents the opportunity to express all thoughts and feelings if they perceive there to be a social desirability bias where respondents are more likely to respond with answers that they think will be the most socially acceptable. In order to minimise issues affecting the validity of responses, it was important to ensure that the interview questions were not restrictive, or include leading or loaded questions (Wellington, 2000). The interview schedules were semi-structured and consisted of open-ended questions, as this less structured approach to interviewing allowed them to take on a more conversational-type stance (Bartlett *et al.*, 2001) and so participants were likely to be more relaxed. In addition, the advantages of personal interaction in semi-structured interviews included opportunities to repeat questions, explain questions respondents had failed to understand, and to ask follow up questions if necessary (Fox, 1969). The interview schedules can be found in Appendices 4, 5 and 7 to 10.

Each interview was recorded digitally. In recording interviews I bore in mind that I would need a good microphone and that a quiet setting may help in producing clear recordings, resulting in more accurate transcriptions, which in turn would help to improve respondent validation (Bryman, 2008). Wellington (2000) advises to use notes in addition to recordings so as to improve accuracy by reflecting on the time, place, interviewees' attitudes and also the researcher's own contribution, and so I used a digital video recorder and made notes. If I deemed any non-verbal communication to be important this was recorded on the transcriptions, although I acknowledge that this is subjective. Burgess (1985), however, in researching the mathematics curriculum in a primary school, had interviewees that did not wish to be recorded; this resulted in taking more time to conduct the interviews and the data produced from note-taking was not as detailed. However, if taking notes was the only method of recording interview responses, the language and phrases used, that put the data into context, could be lost in the note-taking process; recordings counteract our memory's own limitations (Bryman, 2008). Interestingly, Burgess also found interviews conducted with note-taking only were more formal, as opposed to those recorded where interviewees were described as being more settled and talked more naturally, although I acknowledge that some participants felt anxious when they were being recorded. Woods (1986) suggests making notes from interviews and then selecting specific areas in which to transcribe. I chose to produce full transcriptions as they improve the "accuracy and comprehensiveness" of the data (Bogdan and Biklen, 1998, p.36). A negative aspect of transcriptions, however, is that it is a time-consuming process (Scaife and Wellington, 2010). I sought respondent validation for content of the transcripts. The learners did not want to check the interview

transcripts, which meant that respondent validation did not take place, therefore, accuracy in terms of what was stated was confirmed by comparison with attitude questionnaire data and through observations. With regard to the teacher interviews, all transcripts were checked and validated by the teachers.

At the end of the interviews I kept the recording device on until the interviewee vacated the room as they often "open up" once the interview concludes (Bryman, 2008, p.456) and I did not want to miss any potentially important information. As recommended by Bryman (2008), following the interview I made notes on how the interview went and if there were any disruptions, and reference to these notes put the findings into context for each interview conducted.

In the initial interviews with teachers participants were asked to state their name, number of years of teaching experience, to describe their role in school and how long they have been in that role. This information was recorded on a 'face sheet' (Bryman, 2008) and used to put each participant into context during the transcription process. The questions relating to the contextual information recorded on the face sheet also served to put the interviewee at ease as they should have been easy to answer (Burgess *et al.,* 2006). In order to maintain confidentiality this information was only used to put the interview results into context, and to help preserve anonymity details were not shared with others. During the interview I ensured that participants did not feel under pressure as I did not dominate the conversation, and I gave participants time in which to answer questions and waited until they had finished speaking before asking another question.

During the interviews which were conducted in classrooms there were some interruptions such as learners collecting belongings, and although respondents did not appear to object to these interruptions, sentences that had started were stalled and what respondents had intended to say may have been altered and so it affected the interview. After one interruption it was necessary to recap on previous comments prior to the interruption, as the respondent used the phrase, "Where was I?". Future interviews took into consideration the interview location in order to protect, as best as possible, respondent anonymity.

Modification of case study design and procedures occurred as I learnt about the study (Bogdan and Biklen, 1998) so that the data I generated was valid and assisted me in answering the research questions. I acknowledged that my research must be flexible, with the original research questions requiring revision as the research progressed. To put this into context, the following description details how the focus of my research changed from that of formative assessment to a more defined emphasis on peer-assessment.

A month after the initial interviews with teachers all teaching staff were involved in CPD and the new school marking policy was introduced with the explanations of how teachers were to facilitate peer-assessment, which was to be documented in a written form and signed and dated by learners. I became very aware of the tensions within the school and the dilemmas teachers faced between their professional identity, and personal concerns due to imminent redundancies that were approaching. At this time the LDG, of which I was a member, was engaged in research concerning how learners collaborate with each other in the classroom. As a result of the culmination of the CPD

event, the new marking policy being implemented, the LDG's interests, and understanding that my research had to be focussed and specific, I chose to focus my research on how effective peer-assessment is facilitated in the classroom, using lesson observations and interviews with the participants who were observed.

The Preliminary Observations

The next stage in the process that occurred in 2009, as shown in Table 2, was to observe teaching so that I would be able to see how peer-assessment was actually employed in science lessons. Taking into account the sample of convenience, in order to gain perspectives on how peer-assessment was being facilitated in classrooms, peer-assessment was first observed in both the preliminary and follow-up observations with two Year 8 science classes, which was a sample size of 3% of the learners in the school. These Year 8 science classes were small in comparison to other classes observed as the teachers involved were working on their own research as part of the LDG, and it had been arranged with the SLT that as there was an additional teacher not timetabled to teach at that time, learners were put into smaller groups. I observed but did not participate in the lessons, and as I did not have an observation schedule I took field notes in addition to videoing the lessons, which aimed to record the behaviour of participants in as much detail as possible, allowing for a narrative account of the behaviour to be constructed (Bryman, 2008). My personal short-hand and symbols were used in making these notes, with more in-depth notes written after the observations (Simpson and Tuson, 1995). This is because observations make a high demand on time, effort and resources, and data collected in this way will almost

certainly take a long time to study, therefore, the research was planned within the limits of my resources (Simpson and Tuson, 1995). Although the field notes supported the video recordings it needs to be acknowledged that there is an issue of selectivity, both with the field notes and the video recordings, as not all individuals could be focussed on at the same time.

At the outset of the lesson the video camera was positioned to view the whole class, but then was moved around the room as learners were speaking to better pick up their conversations on the microphone. Full transcriptions were produced of the video recordings and themes emerged during the analysis of these observations.

Analysis of the observation data sought for explanations of the observed phenomena (Cohen *et al.*, 2011). Although observations allow for the observer to understand how the participants act, interviews were conducted after observations where respondents were asked to explain what was observed (Wragg, 1994). Of the teachers and learners observed, only those that indicated that they would be willing to engage and participate further in my research were approached for interviews. These research subjects, as outlined in the following sections, were markedly smaller in number than the participants in the observations, however, their contributions were found to be very insightful.

Preliminary Interviews with Teachers

The nine initial interviews with teachers provided data that allowed me to make a preliminary analysis of the way that peer-assessment was used but it soon became clear that further interviews with both teachers and learners would be required for a full analysis of the case under study. The next set of interviews outlined in Table 2, which are referred to in this research as preliminary interviews, took place 6 months after the initial interviews and all the considerations concerning interviews that were explained in the paragraphs above were also borne in mind in these interviews.

The preliminary interviews were conducted with the two teachers of the Year 8 classes observed in the preliminary observations. In addition, a third teacher that had shown interest in the research also participated. These three teachers represented 5% of the teachers in the school. It was most convenient for all these participants to be involved in a group interview due to issues of time availability. This interview occurred on the same day as, but after, the preliminary observations of the Year 8 classes.

Preliminary Interviews with Learners

Learners in the two preliminary interviews were also interviewed as two groups of volunteers, consisting of seven and eight participants from their subject class only, with a sample of convenience at a sample size of 1.7% of learners in the case study school. The interviews were video recorded, and when asked if the cameras put the learners off, one learner replied,

[No] not really. You just get used to them.

Learner K

Other learners nodded in agreement to this statement. Some learners did not participate in the interviews as they did not have parental/carer permission for this.

Follow-Up Observations and Interviews

As outlined in Table 2, it was also possible to conduct follow-up observations of peer-assessment in the same classes as the preliminary observations six months earlier, as the SLT had AfL development as a focus at this time, and so the use of peer-assessment in the introductory stage of this development was under observation. It was not possible to observe these lessons on a regular basis as it would be unethical to leave my timetabled classes with a covering teacher for prolonged periods. It was also possible to interview learners from the classes observed, however, the sample size was very small and consisted of two learners, representing 0.4% of learners in the case study school.

The preliminary and follow-up observations offered insight into the way lessons were conducted but did not document how peer-assessment is used throughout the school, and so to ascertain opinions from a larger sample size across the school I facilitated the use of a questionnaire, which is now outlined.

Questionnaire

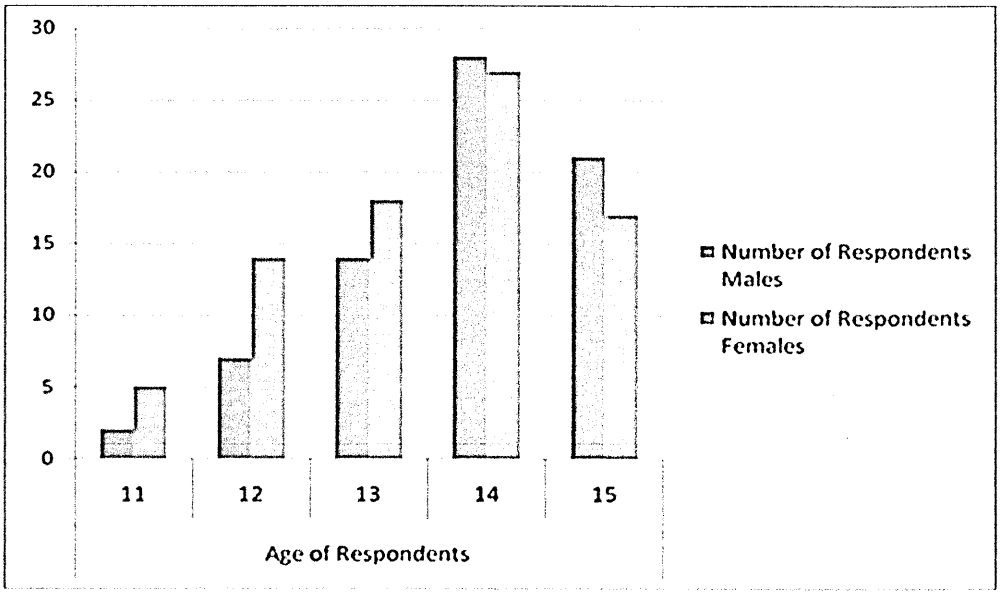
The purpose of the questionnaire was to ascertain learners' perceptions of peer-assessment throughout curriculum subjects with a larger sample than the preliminary and follow-up observations and interviews as they had only focussed on science lessons. In designing the attitude questionnaire I took into account the following points, as described by Munn and Drever (2004): it must be pleasing to the eye, brief, easy to understand and quite quick to complete. A range of factors were also taken into account including how many questions to ask participants, and the variety of question types employed (Cohen *et al.*, 2011). The statements on the attitude questionnaire must be meaningful and unambiguous, but not so strongly worded as to bias responses (Black, 1999). Closed, structured questionnaires will have a convergent response and it enables patterns to be observed and comparisons to be made. Black (1999) describes the dichotomy between having enough questions so that the issues are explored, but not so many that the participants lose interest. Questions of a binary nature, which the participants answer with a 'yes' or 'no' response, may reduce what Bryman (2008, p.217) describes as "respondent fatigue": the potential for fatigue can be reduced if the questionnaire is designed so that it is straight forward and easy to follow. Fixed-alternative questioning allows respondents to choose from alternative answers with the advantage of achieving uniformity, although this may be at the expense of being superficial if respondents cannot answer due to having no suitable category (Cohen *et al.*, 2011). Black (1999) observes that different types of responses to fixed-alternative questioning, such as response categories employing Likert scales, may be called for if participants are asked to answer, respond or comment on

statements or items where they could further explain or clarify the responses they had made. Therefore, responses on Likert scales were chosen as they offer a wider range of response categories than using an agree/disagree or yes/no choice. Due to its simplicity and a range of responses that is deemed not to be too overwhelming, my attitude questionnaire used a 5-point Likert attitude scale (Cohen *et al.*, 2011) with the '5 points' given as: 1=strongly agree, 2=agree, 3=neither agree nor disagree, 4=disagree, 5=strongly disagree. The provision of these options enabled the generation of information about the respondents' levels of agreement/disagreement (Oppenheim, 2001), so it was possible to gauge a snap shot of participants' levels of agreement or disagreement at the time in which they participated. Within the questionnaire there were less structured, or semi-structured questions, with open-ended response categories, which allowed for divergent responses where participants were asked to justify a judgement or opinion in a written form. At the end of the questionnaire there was also an open response category where learners could indicate if they had any further comments about working with friends or peers. The attitude questionnaire can be seen in Appendix 6.

With regard to piloting the attitude questionnaire, after being approved by the deputy head in July 2010, time restrictions due to the end of the term approaching meant that it was possible to ask the learners within one tutor group to read and answer the questions and to verify that they understood the questions' meanings. I then identified any changes that needed to be made. There were only a few changes required to improve the clarity of the statements provided.

The questionnaire was presented in a web-based form due to the ease of then analysing numerical data. It was initially hoped that learners would complete the questionnaire during morning tutorial periods, however, it would not have been possible for all learners to complete them if they needed to attend an assembly and there would not have been enough computers if they were all completed at the same time. Instead it was agreed with the school's SLT that the attitude questionnaire could be completed during 'activities week' at a time when the respondents were more likely to have access to computers, and it was also perceived that this would cause the least disruption to learning. This, however, had the effect of limiting the number of respondents as learners were often engaged in sporting activities or they were out of school on educational visits. Therefore, learners completed the questionnaire during a timetabled lesson of ICT over a 1-week period, which occurred during the week following the activities week. Although it had been agreed that learners complete the questionnaire during their ICT lesson, and while members of the department were briefed on how to facilitate this, only the head of the department participated. Graph 1 identifies the gender and range of ages of the learner respondents to the attitude questionnaire:

Graph 1: A summary of the gender and range of ages of the learner respondents to the attitude questionnaire



The participating teacher explained to learners that during the completion of the questionnaire they were not to confer, and to complete it individually. For learners with low literacy skills, learning support assistants (LSAs) assigned to learners in these classes assisted them to complete the attitude questionnaire. LSAs were advised that they must not influence the learners' responses, and so only read the questions aloud or type the answers, depending upon the individual learner's needs. Learners were given the opportunity to put their names on the attitude questionnaire if they would be interested in taking part in further related research.

The responses were skewed in the sample towards the older learners in the school as the head of ICT taught more KS4 than KS3 classes, with an overall response rate of 154 learners (17% of the learner population). All of the learners who completed the attitude questionnaire responded appropriately, with the exception of one whose responses were discounted, thus reducing the number of responses for analysis to 153.

Upon completion the attitude questionnaire responses were exported into SPSS for data analysis, to provide information that could be used to assist in answering the research questions. Open responses were categorised thematically and colour coded, thus facilitating analysis.

There was a range of convergent themes from the respondents where participants were in agreement or had similar perceptions. However, on occasions there were some themes where divergence occurred both between individuals and within the same individuals across different data collection methods (intra-individual differences) where there was no consistency between responses. The preliminary and follow-up lessons observed were from Year 8 and restricted to learners aged 12-13 in one curriculum subject, science, providing a small sample size and limited representation of curriculum subjects. Therefore, as a development in the research, additional observations were then planned with classes of differing ages and curriculum subjects to ascertain perspectives from across curriculum subjects and key stages, to help to provide a cross-sectional view of the effectiveness of peer-assessment, and to provide greater explanation to questionnaire responses. The context of these final observations and interviews is now discussed.

The Final Observations and Interviews

To further investigate peer-assessment throughout curriculum subjects in addition to science, in February and March 2011 I undertook observations of a range of curriculum subjects and ages of learners involving a sample size from the school of 134 learners and 8 teachers, a total of 27% and 16% respectively, and a summary of the context of these observations can be seen in Table 2, with the set numbering described earlier in the section relating to 'school context'.

Learners involved in the final lesson observations, who had also indicated on their attitude questionnaires that they were willing to participate in follow-up interviews, were invited to be interviewed. Ten learners, resulting in a sample size of 1.1% of learners in the school, were interviewed as a group. It was not possible to conduct interviews with learners individually due to the availability of both the recording equipment and the recording technician, and so group interviews were considered to be more practicable.

Once observations of the final eight lessons were complete, a group interview was set up with the teachers of these lessons, resulting in a sample size of 15% of teachers in the school. As a suitable time was available for all of the teachers involved after school hours, they agreed to take part in a group interview. All teachers agreed to the interview when they gave their consent for me to observe their lessons. Simpson and Tuson (1995) state that to improve validity teachers should be interviewed as soon after the observations as possible. The final interviews with teachers, however, were not able to be conducted until 2 weeks later, owing to individual teachers' commitments and availability, and the availability of the video recording equipment.

The interview was video recorded using a video recorder with a built-in microphone, as in previous interviews.

3.4 Ensuring Transparency and Trustworthiness

Reliability

I endeavoured to make my research reliable, that is, ensuring the methods for gathering data were consistent, as was the data analysis, so that my original research can be replicated and achieve similar results either by another researcher or by me on a different occasion (Wellington, 2000). Le Compte and Preissle (1984), however, state that it is difficult for a researcher to achieve reliability when studying the social world. Stenbacka (2001) considers that as reliability is a positivistic measure it is inappropriate to apply it to a qualitative study. Reality is an ever-changing construct and when researched, it is based on the researcher's interpretation of the reality (Merriam, 1995). However, it is important that qualitative studies are reliable, and so trustworthiness is crucial (Seale, 1999). A reflective process analysing the research approaches should include an element of reflexivity where Hammersley and Atkinson (1983) state that there should be explicit recognition that the social research and the research act itself are part of the social world under investigation. This meant taking steps to ensure that my study was transparent, therefore, I explained the decisions that I took, including the validity of the research tools and any ethical considerations within the research. Showing how any conclusions have been reached, and why, will mean that any reader will consider that those conclusions are reasonable and rational.

Consequently, my claims to the reliability of my data lie in the transparency with which I set out my research and analysis process.

Validity

Validity concerns whether the research has an appropriate design which would enable explanations or observations of data to be made (McCormick and James, 1983). It also concerns the quality of the conclusions drawn from collected data (Onwuegbuzie and Johnson, 2006) so long as the methods employed and the data collected record what they purport to measure and record (McCormick and James, 1983). In this enquiry, the validity of the research lay in the research methods employed to investigate the effectiveness of peer-assessment. There is an epistemological assumption that all knowledge acquired can be communicated to others, however, can communication of any theories generated from my research be of use to others? Burgess *et al.* (2006) explain that interpretation is of a subjective nature and, therefore, to help overcome this issue I acknowledge that it is important to have communicated clearly with the readers of the research. Indeed, Wellington (2000) states improvement of validity may occur by observing and measuring that reality in person.

The aim of the study was to understand the effectiveness of peer-assessment in a case study setting, focussing on a small sample of participants. By using a mixed-method approach the findings could be triangulated which, as Patton (2002) describes, helps to strengthen the validity of the study but only if there is convergence and agreement and my methods are generating valid data. Triangulation can confirm the findings of the research by showing that they are not a methodological artefact, but rather there

is convergence, or agreement, between more than one method (Bouchard, 1976) and where different methods yield congruent and comparable data (Denzin, 1978).

LeCompte and Goetz (1982) state that there is strength in qualitative research when there is a high level of congruence between concepts and the data presented, and this can be achieved from prolonged participation in the context in which the research is being carried out. As I conducted research as a member of staff in the school, I had more control over this than if I conducted the research in another school. Bogdan and Biklen (1998) do, however, recommend that teacher researchers conduct research in an alternative school from which they are employed, as they recognise that it may be more difficult for teachers to distance themselves from any personal concerns. However, it was not possible to visit other schools during the hours the schools were available for the research to be carried out due to my own full time employment commitments. Therefore, Peshkin (1988) suggests that when conducting any research it is important to be 'mindful' and identify any subjectivity that may filter, skew, shape, block, transform and misconstrue the research.

There is the disadvantage that just by conducting the research I affected the reality, as the measures put into place to conduct the research may have affected the environment in which the research was conducted. Therefore, I used my cultural competence to communicate background expectancies and cultural resonances and made the data meaningful to those that read it (Ball, 1984). I reflected, was open to self-critique, set aside pre-conceptions, and accepted that the research may not have proceeded as hoped (Ball, 1984). As a participant researcher I had the advantage of having a rapport with participants, referred to as cultural intimacy, which allowed me

to evoke commonly held knowledge and shared meanings in what remained unsaid, and used this to provide a rich context (Ball, 1984).

Insider Research

Gewirtz *et al.* (2009) highlight the view that insider research can be perceived as both an asset and a liability. Detailed knowledge can be gained from being a participant observer, however, as an insider I may have been subject to bias due to closer social and emotional engagement. Only by truly understanding the world of the school can I, as a teacher, reflect upon my own professional practice (Stenhouse, 1981) and explore peer-assessment in order to improve pedagogic knowledge. Gewirtz *et al.* (2009) also describe how teacher-researchers may receive intrinsic rewards from participating in research by having the opportunity to make connections and communicate with other teachers, allowing the sharing of experience and the extension of professional repertoires. As an insider researcher, and where necessary, I also used my knowledge of the research site to make apparent any non-verbal communication I may have seen, as not all actions and statements were verbal (Cohen *et al.*, 2011), documenting this in my observation notes. This provided insight into how actions and thoughts are linked to the social context, and the way their meanings are shared by participants.

Reactivity

The issues of reactivity are now discussed and how they affected my research. My role as an insider observer may have had an impact upon the way in which I experienced the research in terms of what I may have focussed on or noticed, therefore, I tried to ensure my notes were as thorough as possible so that I could reflect upon the observations and data more thoroughly once they had concluded. Therefore, if circumstances, either personal or work-related, can affect the way I feel it is logical to assume that the learners and teachers responded in their own individual ways too, as responses may differ at different times and in different contexts. I assume that learners would react to their experiences in what may be a more emotional way than I would as they are adolescents with various accompanying hormone changes that may not affect me as an adult in the same way.

It is also noted that my presence in the observations, the presence of the video technician, or even the presence of the video and sound recording equipment, may have affected learners' responses in that they may respond in such a way that they believe the adults may expect them to. Alternatively, the learners may have reacted in a way different to how they would have responded had the technician and equipment not been present. Although it was not possible to eliminate this effect, I tried to ensure I did not interfere in the lesson, however, it was not always possible. As a teacher employed by the school I have a duty to help the learners in that school, and when learners specifically asked for my help while I was observing I could not refuse to assist them.

It is also important to note that learners may have responded by writing or saying what they think I may have wanted to hear. It is noted that the presence and assistance of the LSAs during the completion of the attitude questionnaire may have had an impact upon learners' responses in that they may respond in such a way that they believe the adults may expect them to, thus invalidating the results. This is an example of a power differential whereby learners feel vulnerable and are not truthful in their responses. Conversely, learners may be more dominant in the power differential, for example, in their responses to the attitude questionnaire as they knew they were anonymous.

By conducting the interviews I unintentionally, but inevitably, affected the behaviour of the interviewee. To reduce this 'observer's effect' I tried to interact in a "natural, unobtrusive and non-threatening manner" (Bogdan and Biklen, 1998, p.35) and I used my knowledge of the research site to recommend times and places for interviews to take place.

3.5 Alternatives to Validity and Reliability: the extent to which the findings can be generalised

In his evaluation of multi-method qualitative studies, Jick (1979) acknowledges the difficulties involved in replication as no social reality can ever be the same due to changing human behaviour and contexts. Lincoln and Guba (1985) offer alternatives to reliability and validity, describing trustworthiness and authenticity which can be used to assess qualitative research. Authenticity includes fairness and ontological, educative, catalytic and tactical authenticity. With reference to the use of interviews

and to accredit the research, it is important to ensure that they are trustworthy (Lincoln and Guba, 1985). Trustworthiness requires:

- Respondent validation to enhance credibility, giving interview respondents the opportunity to read transcripts of their responses and confirm or verify the content;
- The provision of thick description of what the research entailed;
- Confirmability, to recognise that complete objectivity is impossible, and to acknowledge personal rationale but without allowing personal values to affect the research.

Burgess *et al.* (2006) outline that there are critics to case study research as the findings are not generalisable due to their uniqueness, subjectivity, and interpretation. Cohen *et al.* (2011) also summarise criticisms of case study research in the form of subjectivity, being impressionistic and idiosyncratic, and lacking in quantifiable measures. These criticisms raise questions about the validity of any research, as the research may not be applicable to other situations. Other criticisms concern the internal validity, as the participant researcher's close involvement with participants may affect judgement.

While generalisation was not the goal of this research, it may give rise to an osmosis effect where it may permeate into discourse (Wellington, 2000) and other researchers use it either to inform or support their own research. Maxwell (1992) differentiates between internal and external generalisability, where external generalisability pertains to how the research can be generalised beyond the group setting, and internal generalisability refers the generalisability of a conclusion within the research. It is

internal generalisability that was more important to this qualitative research as it is a case study of one school, where the findings may be used to inform improvements to teaching and learning within this context. This said, my research may be generalisable as external generalisability may provide detail and understanding that education professionals find relevant and of use (Bartlett *et al.*, 2001). In reference to the generalisability of case studies, Hays (2004, cited in deMarrais and Lapan, 2004) offers an alternative view to Burgess *et al.* (2006) and states that generalisability is not a goal of individual case studies as they are about discovering the uniqueness of a case, although generalisability may be possible if several studies are conducted on the same phenomena.

The strength of the research will lie in its relatability (Bassey, 1990), although an alternative view from Wainwright (1997, p.15), who is not an advocate of relatability, states that thick description alone is insufficient to allow for the generalisation and relatability of a phenomenon, as it must also provide insights into the "social relations that underpin it". Wainwright (1997) offers an additional claim that although the behaviour found in the research may "shed light" on the behaviour of others, there are limits of "time and space" which could limit the study's relatability. I was not deterred by this, however, as further descriptions by Guba and Lincoln (1982) highlight that although there may be limits with regard to relatability, the research can still allow for fittingness, in addition to comparability and translatability (Guba and Lincoln, 1982) with the social world. Upon reviewing the research findings, other researchers can apply what they think is relevant, that is, they can reflect upon the comparability and translatability of the research, and relate the research to their own contexts.

As a qualitative study it is acknowledged that the view of the social reality observed, reflected upon, and analysed was not static (Merriam, 1995). There is a possibility that this reality may change between the views and perceptions of teachers and learners, and that teachers' and learners' realities and perspectives themselves may change over time. The research approach, using an attitude questionnaire, observations of classes, and interviews with teachers and learners was chosen with the acceptance that it will be a snap shot of that reality in that time only, and if the research were to be conducted at another time, it is acknowledged that the findings may be different.

Chapter 4: Findings

4.1 Context

The Case Study School

The school is a mixed comprehensive with 900 learners on roll, aged 11-16 in Year Groups 7-11. The geographical area has a history of mining. The majority of learners walk to school or use public transport, and some are brought to school in cars by members of their families. Both the proportion of learners entitled to free school meals, and the percentage of learners with statements of special educational needs, or who have been diagnosed with learning difficulties and disabilities, are similar to the national average. Twenty five percent of learners are on the 'Aim Higher' register which is part of the Department for Innovation, Universities and Skills campaign (Teachernet, 2009), encouraging learners to study in higher education. With a few exceptions, learners are predominantly British, white and have English as their first language.

The setting practices of the school, and how they changed throughout the time in which the research was conducted, are important in understanding the data. Prior to 2010 there were eight ability groups in each year group where learners were placed in a set based on levels of attainment in the previous academic year. The process of assigning learners to one of eight classes based on attainment in each curriculum subject, however, changed in the academic year starting 2010. Learners were separated into two bands based on which tutor group they were in, and each band was then split into four ability-based sets.

The Data Set

As indicated in the Methodology chapter the data available for analysis were learner questionnaire results, interview data from both teachers and learners and observation of peer-assessment in lessons. The results from my analysis of the data that were found to affect peer-assessment fell under the following themes:

- The teachers' experiences and their effect on the use of peer-assessment
    - Training for using peer-assessment for both teachers and learners
    - Teachers' interpretation and understanding of peer-assessment
- The learners' experiences of peer-assessment
    - The learners' understanding of peer-assessment
    - Self esteem and motivation
    - The effect learners have on each other in the classroom,
    - The effects of reading and writing skills
- The timing of peer-assessment
- The learning environment
- Social and family effects

These identified themes were found to be inter-related. The overriding issues relate to teachers' CPD training and their interpretation of peer-assessment, which are factors that determine how, and when, peer-assessment is carried out. Although timing is not the only issue, it has a clear impact upon the effectiveness of peer-assessment. Additional themes were identified for the learners, as the relationships they have with each other, both in and outside of the classroom, can affect their levels of motivation

and self-esteem, and their involvement in peer-assessment. Therefore, the order in which these themes are presented is to tell the story of how peer-assessment is realised in this school, how it affects the learners and to provide answers to the research questions. This chapter will start by explaining how peer-assessment is facilitated, and then go onto explore how peer-assessment impacts upon the learners and learning in the classroom. Although this research concerns the effectiveness of peer-assessment, an explanation of the implementation of peer-assessment in the classroom for the case study school will be necessary to set the context.

The background starts with the teachers: the CPD training that they received appears to have had a marked impact on the planning of peer-assessment. How peer-assessment was actually delivered by teachers and the extent to which learners become engaged in learning activities involving peer-assessment, is illustrated in the vignettes presented in Section 4.2 and is further explored using the data from the questionnaire and interviews with teachers and learners. A range of convergent themes relating to the research questions were identified within the data collected, as shown in Table 3, including positive and negative effects that learners have on each other. There are, however, some themes where divergence was clearly apparent, such as the differences in motivation between participants, and within individuals (intra-individual differences), such as levels of confidence and self-efficacy to engage in peer-assessment. This may be due to changes in feelings, emotions and personal experiences of the learners and teachers during the time in which the field work was conducted, although this is something that happens in general and does not necessarily only relate to peer-assessment.

Throughout this chapter, some of the quotes from interviews contain words in brackets; these brackets were inserted to improve clarity, and were added only when I was sure that the context indicated that the participant was referring to the words that I added.

Table 3: A table summarising the themes emerging from the research

Research Question	Themes			
	Learners' levels of understanding of peer-assessment	Teachers' training with, and subsequent interpretation of, peer-assessment	The timing of peer-assessment	The effect learners have on each other in the classroom: • Self-esteem and emotions; • Learning environment; • Peer pressure; • Social/family; • Reading/writing
Question 1: How effective is the use of peer-assessment in the classroom within the case study school? • How effective is planning for the use of peer-assessment in classrooms? • Do teachers in the case study school find implementing peer-assessment feasible?	✓	✓	✓	✓
Question 2: What values do learners and teachers place on peer-assessment?	✓	✓	✓	✓
Question 3: Do teachers perceive any barriers to using peer-assessment in lessons? For example - are learners' levels of self-esteem and motivation to engage in peer-assessment linked to reading and writing ability?	✓	✓	✓	✓

4.2 Teachers' Training with, and Subsequent Understanding of, Peer-assessment, and how it is Implemented with Learners

Teachers' Understanding of Peer-assessment

The teachers that were interviewed in the preliminary interviews (Teacher X, Teacher Y and Teacher Z) demonstrated uniformity in their understanding of peer-assessment, in that learners should provide formative feedback to their peers. Teachers X and Z were in agreement that peer-assessment is about learners working together to help make improvements in their work.

> *"[Peer-assessment is] all about kids working together, helping each other, discussing ideas and offering suggestions on how they can improve."*
>
> **Teacher X**

Teacher Z, however, was sceptical that the learners actually understood that they were peer-assessing at times when they are naturally discussing their work and offering suggestions to peers.

> *"It's a bit of both [working together and advising how to improve]. I suppose students do a lot of group work and may not realise that they are peer-assessing. The kids would probably not realise how much collaborative learning and peer-assessment they do."*
>
> **Teacher Z**

Although Teacher Y agreed that learners work together to provide feedback to peers in order to make improvements to work, she stated that this feedback was based on

what the learners achieve when assessed against a list of success criteria with levels or grades. In the preliminary interviews conducted with teachers, it appears that peer-assessment is perceived as a process of providing feedback on how a learner can improve in relation to either a Key Stage 3 level descriptor or a GCSE grade descriptor.

> *"[Peer-assessment] is about students assessing each other's work, giving it a level or a grade and providing targeted feedback on how to improve."*
>
> **Teacher Y**

The eight teachers in the final group interview were TeacherSci, TeacherDan, TeacherMus, TeacherICT, TeacherMath, TeacherSpan, TeacherArt and TeacherHSC. These eight teachers were in agreement with each other that both teachers and the learners perceive there to be two types of peer-assessment. The two types of peer-assessment identified were the formal, summative peer-assessment that occurs usually at the end of a topic, and informal, formative peer-assessment that occurs during the lesson as learners work collaboratively, sharing ideas, and commenting on each other's work. There was concern from the teachers that learners did not see the more informal, formative peer-assessment tasks as actually being peer-assessment; the teachers seemed to feel that the learners simply thought that they were interacting with groups of friends and enjoyed that.

Analysis of the observations given in Section 4.2, further elucidated by the teacher interviews, made apparent why teachers talked as if there were two types of peer-assessment. Many of the lessons observed clearly showed the emphasis that teachers placed on peer-assessment as a formal, written process that occurred at the end of a unit of work, in addition to more natural, informal occurrences of peer-assessment.

These lessons showed that the process of peer-assessment in school was one where peers were encouraged to use level or graded criteria to assess the attainment of a learner, write their evaluation, sign and date their assessment and then return it to the author, as exemplified in the teachers' CPD. This process was found to be consistent across all curriculum subjects observed.

> *After a given time in which learners had to complete a task individually, the teacher explained that they were going to peer-assess another learner's work. The work was collected in by the teacher and then randomly distributed amongst the class. The teacher revisited the levelled criteria that were explained earlier in the lessons and clarified that learners must carefully read the work, go through the list of levelled criteria, of which they all had they own copy, and tick off the levels, or part-levels, that were met. Peers were then to award a level, giving a reason as to why they have done so, and then supply written feedback offering suggestions on how to make improvements.*
>
> **Final observation, Year 7, Science**

It was only these occurrences that were named with the term 'peer-assessment'. Where the observations (see Section 4.2) showed that learners undertook more informal, naturally-occurring, verbal peer-assessments, these occurrences were not named as peer-assessment. These informal occurrences were observed to occur to varying degrees between different teachers and within the context of different curriculum subjects. An example of such informal peer-assessments can be seen in the following extract:

Learners worked in pairs to write down sentences in Spanish about holidays. They were talking to each other and the atmosphere was calm and relaxed. They asked each other questions. When answers were not known within the pair, they asked between pairs, and peers were willing to help if they could. They did not, however, know all the answers. There did not appear to be a gender split with regard to motivation or self-esteem. There was, however, a gender split; boys working with boys, girls with girls. Learners were motivated to complete the task.

Final observation, Year 10, Option GCSE Spanish

When peer-assessment is carried out formally in a summative way, it may affect learners' levels of motivation if the activity generates negative emotions, as described by Teacher Z in the final teacher interview. Feelings of anxiety were described as a reason why some learners may not participate in peer-assessment.

"No, they like to work in groups and share ideas, but they probably don't realise they are peer-assessing. It's not until it's announced that we are going to level and provide targets to each other that the atmosphere changes and the students become more uptight. Some take it seriously, but you can see that others are holding back."

Teacher Z

Teachers, however, do recognise that if learners are motivated then it can be advantageous. Teacher Z in the follow-up interviews, and TeacherSci in the final interview concurred that if learners are motivated, the advantages that peer-

assessment can provide include social interactions and team-building skills, improving self-esteem and confidence. Learners can apply these either to curriculum subjects or out-of-school learning for college, university, an apprenticeship or a job, or for their life-long learning experiences.

> *"Oh, I think [peer-assessment] is invaluable. It has the potential to do so much. It can build team skills, independent working skills, self-esteem, confidence, improve social interactions. [Peer-assessment] is meant to be used throughout their [lives]: life-long learning. If they can get it right at school then they can use it when they go to college or university, or get an apprenticeship or job."*
>
> **TeacherSci**

> *"[Peer-assessment] helps the kids to become life-long learners, theoretically. If they can get it right and realise what they are doing, and apply this in other subjects and courses or at work, then it will be of benefit to them. But, since they can be quite apprehensive when they see [peer-assessment] as a formal task, I don't know if this has the opposite effect as they are less likely to want to engage in it."*
>
> **Teacher Z**

How the Teachers' Understanding Manifested Itself in the Classroom

Four vignettes taken from direct observation of lessons are given here in order to clarify the way that the teachers understood the ideas surrounding peer-assessment. The aim of presenting the four vignettes is to allow transparency and to provide evidence for the claims made in the discussions and conclusion. There were a total of twelve lessons observed for the study. In eight out of the twelve the process explained earlier of formal peer-assessment was seen with learners assessing their peers work against formal criteria presented on a printed sheet, and providing a level/grade. In all twelve lesson observations some form of informal peer-assessment was seen ranging from overhearing peers helping one another to judge if their work was acceptable, to in-depth discussions of the learning required and how to present it. During informal peer-assessments, learning intentions were communicated with learners either verbally, or through criteria shown on the whiteboard.

Analysis of the preliminary observations highlighted several themes that were further investigated through interviews with participants. These vignettes were prepared as part of the analysis process by transcribing from the hand written observation sheets used during the in-class observations. The first two vignettes presented here were chosen because they show lessons designed to demonstrate the same topic which were taught by two different teachers. They highlight the contrasting way that assessment was used by different teachers. The lessons are presented in a side by side table so that the contrast in the lessons' progress and effect can be appreciated.

Table 4: A summary of the preliminary observational data for Year 8, Science showing a lesson using the same objectives for Set 4 and Set 5 who had different teachers

Row	Year 8, Set 4	Year 8, Set 5
1	The subject being taught was the human digestive system as part of a topic called 'Food and Digestion'. The learning goals were outlined as follows: <u>Objectives:</u> • To describe the process of digestion of a cheese sandwich <u>Outcomes</u>: • Name the organs in the digestive system (level 4); • Describe what happens to the food groups in each organ (level 5); • Describe how enzymes are involved with digestion (level 6); • Used the Big Idea of Energy to explain how cells use food (level 7); • Explain how food is digested, absorbed and transported to the cells using the Big Idea of Particles (level 7). The task outline was to explain the journey of a cheese sandwich through the digestive system, explaining ideas through either writing a story or drawing a cartoon.	
2	The lesson began with the teacher describing the learning goals of the lesson. Learners were chosen to read out these goals, and were asked if they had any questions about them. The teacher asked, "Does anyone have any questions about what we are learning about today?" Learners remained silent.	The lesson began with the teacher asking individual learners to read out the learning goals of the lesson. Learners responded when asked and this appeared to be part of the normal classroom routine.
3	Learners were introduced to the 'Journey of the Cheese Sandwich' task. The teacher asked different learners in turn to read out the task instructions, and the assessment criteria were given in the form of a 'level ladder' as shown below.	Learners were introduced to the 'Journey of the Cheese Sandwich' task. The teacher asked different learners in turn to read out the task instructions, and the assessment criteria were given in the form of a 'level ladder' as shown below. Learners asked the teacher questions as they progressed if they were unsure of anything. These questions by learners and responses from the teacher included:

		<table><tr><th>Learner</th><th>Teacher</th></tr><tr><td>What does it mean, 'food groups'?</td><td>Do you remember when we learnt about carbohydrates and proteins? They are food groups.</td></tr><tr><td>What's a gullet?</td><td>It's another name for the oesophagus in your throat.</td></tr><tr><td>Some of the bullet points in the level ladder look the same. Does that mean I have to write it out twice?</td><td>No, you just have to do it in more depth, in more detail. Once you think you've finished a bullet point, tick it off.</td></tr><tr><td>What does it mean 'The Big Idea of Energy?</td><td>You need to say what the energy from the food is used for in the body. It also talks about cells too, so you need to think about the different types of cells in the different parts of the digestive system.</td></tr></table>
4	The level ladder provided to learners was as follows: <table><tr><th>To get level</th><th>You might have:</th></tr><tr><td>3</td><td>• Drawn a diagram to show that the food is broken down in the stomach. • Drawn a diagram to show that food goes through the organs. • Named some organs. • Stated what food is used for by the body.</td></tr><tr><td>4</td><td>• Named the major organs of the digestive system, using key words. • Described simply the job of each organ.</td></tr></table>	

	• Named the food groups in the cheese sandwich. • Described simply what food is used for in the body.
5	• Named most of the organs of the digestive system, using key words. • Described what happens to the food in each organ. • Named the food groups in the cheese sandwich. • Explained why the body needs food.
6	• Named all of the organs of the digestive system in order; you may have used alternative scientific names. • Shown knowledge of the shape and position of the major organs in the body. • Explained what happens to the food in each organ. • Described why the body needs each of the food groups. • Described simply how enzymes are involved with digestion. • Explained how food is digested and absorbed using the Big Idea of Particles.
7	• Described in detail all of the organs of the digestive system, relating structure to the function of the system, organs and cells. • Shown knowledge of the shape and position of the major organs in the body. • Explained in detail what happens to the food in each organ. • Explained why the body needs each of the food groups. • Described how enzymes are involved with digestion. • Explained how food is digested, absorbed and transported to the cells using the Big Idea of Particles. • Used the Big Idea of Energy to explain how cells use food.

<table>
<tr>
<td>5</td>
<td>The teacher asked learners to start the task but they were not given any specific instructions on how to do so.
Learners were instructed to complete the task in silence. Coloured pencils were available for learners to use.</td>
<td>Learners were instructed to work in pairs and to share ideas on how to address the task. I could hear natural, informal peer-assessment, where learners asked each other if they were carrying out the task correctly and if they thought their answers were correct. Learners were motivated, engaged and on-task, and immediately responded to peer questions with verbal feedback. Example of peer-peer interactions were as follows:
<table>
<tr><th>Learner</th><th>Peer</th></tr>
<tr><td>Am I doing this right?</td><td>Yeah. I like how you're doing it like a poster. I hate writing stories, me like. You need to talk about the liver too and how it makes bile.</td></tr>
<tr><td>Oh yes, I forgot about that.</td><td>Yeah.</td></tr>
<tr><td>Do you think this is right?

Like, how the teeth chew the food into small pieces and the stomach has acid?</td><td>You can't just label them, you have to say what [the organs] do.
Yeah.</td></tr>
<tr><td>What are you doing first?</td><td>I'm drawing a picture of a body and then writing things around it for each organ. Then I'll tick off the bullet points and see what I need to do.</td></tr>
<tr><td>What are enzymes?</td><td>Remember, it's like the scissors that cut food up.</td></tr>
</table>
</td>
</tr>
</table>

Oh yeah.		

The teacher then asked them to 'snowball' their ideas from pairs to groups of four. Some learners appeared more apprehensive and asked if they could choose which other pair to work with.
The teacher allowed learners to work with another pair of learners of their choosing. Examples of peer-peer interactions recorded are as follows:

Learner	Peer
Can we work with you [because] we don't want to work [with the other learners]?	Yeah, we don't want to work with them either.
What have you done?	We are going to do a poster and label the organs and say what they do.
We're going to write all the key words from the sheet on a picture and add arrows, then say what they mean.	That's a good idea. Are you drawing a picture of the body?
Yeah, like an outline.	
Can you use the [key words] more than once?	Yeah, like enzymes, [because] they are in the mouth and in the intestine.
[I'm drawing] a picture of the body and the sandwich. You can show how the sandwich is getting smaller and smaller at	And you can colour it in and show it turning more brown as it gets near the [anus].

<table>
<tr>
<td></td>
<td></td>
<td>
<table>
<tr><td>each bit.</td><td></td></tr>
<tr><td>What does it mean 'energy'?</td><td>I don't know. Like, how we need to eat to get energy?</td></tr>
<tr><td>Like eating carbs?</td><td>Yeah. Protein doesn't give energy does it?</td></tr>
<tr><td>No I [don't] think so.</td><td></td></tr>
</table>
Learners were making notes as they were talking to each other based on what peers had commented on. Learners seemed motivated.
Following the peer-interactions, learners were then instructed to complete the task individually in silence. Coloured pencils were available for learners to use.
</td>
</tr>
<tr>
<td>6</td>
<td>
For approximately two minutes learners seemed hesitant and were looking around at other learners. Many learners asked the teacher for individual help as she circulated the class, asking for clarification of what they had to do.
<table>
<tr><th>Learner</th><th>Teacher</th></tr>
<tr><td>What do I have to do? (This question was asked by three learners.)</td><td>Read each bullet point, do what it says then tick it off. (The same response was given each time).</td></tr>
<tr><td>Can I just draw miss [because] I don't want to write a story?</td><td>Make sure you include the key words form the box.</td></tr>
</table>
The teacher then re-addressed the whole class and reiterated that they were to start at the top of the level ladder, complete the task
</td>
<td>Learners started the task immediately.</td>
</tr>
</table>

	stated on each bullet point, tick it off and then move on to the next bullet point. The teacher also stated that learners should be aiming to complete all bullet points for their target level which was written on the front of exercise books.	
7	All learners appeared to be on-task, however, the girls were in general more likely to take coloured pencils from the shared box.	All learners appeared to be on-task, however, from observation the girls were in general more likely to take coloured pencils from the shared box.
8	Learners were then instructed by the teacher to swap their work with a peer and complete "peer-assessment". This appeared to be a procedural activity consisting of a learner reading a peer's work, and then providing a written feedback. Learners were directed to use the 'level ladder' to assist them in providing a level as part of their feedback, but they were not shown how to use it. Some learners did not use the level ladder. Peers were instructed to sign and date their feedback and return it to the learner. Girls seemed more motivated to engage in writing feedback, whereas boys were more reluctant.	Learners were then instructed by the teacher to swap their work with a peer and complete, "peer-assessment". This appeared to be a procedural activity consisting of a learner reading a peer's work, and then providing written feedback. Learners were directed to use the 'level ladder' to assist them in providing a level as part of their feedback, but they were not shown how to use it. Some learners did not use the level ladder. Peers were instructed to sign and date their feedback and return it to the learner. Girls seemed more motivated to engage in writing feedback, whereas boys were more reluctant.
9	Learners received their work back, and started to compare what level they had attained. There was no discussion of the feedback, and in many cases learners did not read it, instead focusing on the level they had attained. Learners were not engaged in self-evaluation and there appeared to be little, if no, improvements in metacognition. The teacher did not ask learners to use their feedback to make any improvements to their work.	Learners received their work back, and started to compare what level they had attained. There was no discussion of the feedback, and in many cases learners did not read it, instead focusing on the level they had attained. Learners were not engaged in self-evaluation and there appeared to be little, if no, improvements in metacognition. The teacher did not ask learners to use their feedback to make any improvements to their work.

<table>
<tr>
<td>10</td>
<td>Examples of peer-peer interactions were as follows:
<table>
<tr><th>Learner</th><th>Peer</th></tr>
<tr><td>What level did you get?</td><td>I got a level 5a, what did you get?</td></tr>
<tr><td>Yours is lovely and neat (female response)</td><td>Thanks. Yours was really pretty too (female response).</td></tr>
<tr><td>I just wrote [anything], me like (male response)</td><td>[Yes], me too. Well, there's [no] point is there? [The teacher's] not going to read it.</td></tr>
</table></td>
<td>Examples of peer-peer interactions were as follows:
<table>
<tr><th>Learner</th><th>Peer</th></tr>
<tr><td>What was the point of that [peer-assessment]?</td><td>I [don't know].</td></tr>
<tr><td>I didn't know what to do, did you?</td><td>I just looked at how many bullet points you had ticked off and gave that level.</td></tr>
<tr><td>Aw, you got a 5a and I got a 5c. Rubbish.</td><td>[My work's] not that good. He got a 6c.</td></tr>
</table></td>
</tr>
<tr>
<td>11</td>
<td>The teacher described how the learners would be starting a new topic the following lesson. "Hand your peer-assessment back to the person it belongs to. Right, we are going to start a new topic next lesson about Rocks and Weathering. Does anyone know what 'weathering' means?"</td>
<td>The teacher described how the learners would be starting a new topic the following lesson.</td>
</tr>
<tr>
<td>12</td>
<td colspan="2">Upon comparing learners' work from both Sets, it was apparent that the overall attainment of learners in Set 5 was greater than that of learners in Set 4.</td>
</tr>
</table>

The vignette of learners from Set 5, as shown in the third column of Table 4, indicates that when learners engage in informal peer-assessments, this seems to engage and motivate them and move their learning on as they are discussing that which is required of them, and they try to help one another to meet the criteria. That is, the conditions described in this column of this table seem to provide the environment required for effective peer-assessment as indicated in the literature, discussed in Section 2.5 (e.g. Black and Wiliam, 1998). In this lesson learners were encouraged to work together at the outset, which gave them an opportunity to use informal peer-assessment as a means to clarify the learning intentions set out by the teacher. They are seen to question the teacher about the learning objectives (see Table 4, Column 3, Row 3), and ask one another about how to carry out the task and to consolidate their understanding at each step (see Table 4, Column 3, Row 5). Learners in Set 5 were also able to work with peers of their choosing who they considered friends, and they seemed keen to do so. They showed higher levels of motivation as they engaged in analytical and productive task-involving discussions than the group in the first lesson vignette (Set 4, Column 2).

In the vignette of Set 4 (as shown in Table 4, Column 2) little discussion took place between the learners. The learning intentions were made overt in the lesson but discussion of any assessment criteria was not encouraged as learners were instructed to complete the task in silence (see Table 4, Column 2, Row 5). In fact from the outset of the task, these learners were not given an opportunity to work with peers to discuss the task, or to clarify assessment criteria with each other, or work with peers in any way. The type of peer-assessment seen in the Set 4 lesson is of a more formal, procedural type of activity, and it seemed from the observations (for example,

"Thanks, yours was really pretty too", Table 4, Column 2, Row 10) to show little effectiveness in improving learners' understanding.

Although the Set 5 learners (see Table 4, Column 3) used informal peer-assessment during the completion of the task, the timing of both formal, written peer-assessments are at the end of the topic, and seem designed to satisfy the requirement from the SLT that peer-assessment be documented to provide evidence for accountability purposes that peer-assessment was taking place, rather than being intentionally designed to further learning. However, neither of the peer-assessment activities used in Table 4, Rows 8-10, met the criteria for effective formative assessment as discussed in the literature (see Section 2.5) by Black and Wiliam (1998) as learners did not use the feedback they had received to make improvements to their work, nor was time provided for them to do so.

It was clear from both the language used and reactions observed during the formal assessment episodes that the learners in both Sets focused on levels achieved, and on comparison amongst each other. Learners from both Sets indicated during the observations that they could not see the value in conducting the peer-assessment as the teacher would not read it, nor would it be used for any other purpose (see Table 4, Row 10). In addition to these reactions and views from learners, coupled with an environment where they were not engaged in discussing assessment criteria as previously mentioned, the opportunity for the teachers to develop learners' metacognition through self-reflection, as described by Flavell (1979), and Anderson *et al.*, (2001), was not evident, and the purpose of learners providing feedback to their peers was not made clear to them. Both of these examples, shown in the Table 4

vignette, seem to simply follow the teachers' interpretation of the directive from the SLT, and both imply that the term peer-assessment is used for formal, written activities, with no follow-up in the use of the feedback. It is unsurprising then that this influences the learners' understanding of what they consider peer-assessment to be.

After evaluation of the work, two observations were apparent: girls had taken more care over the presentation of their work, and one girl commented on this (see Table 4, Column 2, Row 10); boys' work was generally poorer in presentation but better content, and the feedback provided was brief with little, constructive content. There were varying degrees if accuracy in peer-assessments with regard to the levels of attainment gauged to have been achieved. Learners had an overall poorer attainment in Set 4 than in Set 5 for this task, again arguing for the relative effectiveness of the informal peer-assessment seen to occur in Set 5's lesson.

The vignettes in Tables 5 and 6 are based on the notes taken in the final round of observations. They are employed here to provide a context for the later analysis by exemplifying both the use of formal peer-assessment judged to be ineffective in moving learning forward, and informal peer-assessment, which proved to be more effective in moving learning forward.

Table 5: A summary of observational data for Year 8, Band 3, Music

Row	Description
1	The music teacher explains the objectives of the lesson: to be able to describe a piece of music, and to be able to compose music and describe it.
2	A piece of music was played by the teacher and learners were instructed to listen as they would be asked what the piece was like, when and how it changed throughout. One learner then tried to explain what she had heard, but was interrupted by boys in the class who were laughing at her and the way she spoke. The girl then desisted from answering and started to giggle with the boys. Other learners in the class were not paying attention and showed no interest in trying to answer the teacher's closed questions that followed, such as, "Was it a happy or sad piece?", "Was it fast or slow?". Learners were then given a worksheet to fill in which presented the same questions about tempo and feel of the music that the teacher had asked to the class. Learners were instructed to complete this individually. The teacher then asked individual learners, who were sitting in a circle, to swap their worksheet with a peer in the class of their own choosing, and then they were to read out their answers to the rest of the class. Where learners had answered incorrectly they were not instructed to make any amendments to their work, other than to either 'tick' or 'cross' it. As the teacher continued to ask the learners to answer the questions from the sheet, learners seemed more willing to answer questions and shouted out the peer's answers.
3	Learners were then instructed to work in groups of three to compose a piece of music using the same words relating to music structure that were identified from the first piece of music played by the teacher, and were given a 15 minute time limit in which to complete this. The boys were very keen to get started using the instruments, but did not appear to be listening to the instructions. They sat in their friendship groups, and there was no discussion about this. The girls were bickering about who would work together as they wanted to work as a larger

<table>
<tr><td></td><td>friendship group. There were three learners not assigned to any group and the teacher asked them to work together; two of these learners did so, but one preferred to work alone.</td></tr>
<tr><td>4</td><td>The boys were primarily playing pre-recorded beats on the keyboards, and did not appear to know what to do. The teacher explained to the boys that they had to compose music using the key words from the worksheet. He then asked them if they knew what they had to do, to which the boys replied that they did. Questions asked amongst these boys include:
<table>
<tr><th>Learner</th><th>Peer</th></tr>
<tr><td>What do we have to do?</td><td>I don't know.</td></tr>
<tr><td>Do we just have to make up a piece of music?</td><td>Yeah. Can we do heavy metal?</td></tr>
<tr><td>No, I want to do R 'n' B.</td><td>Well start with heavy metal and you can put R 'n' B beats in.</td></tr>
<tr><td>Yeah ok.</td><td></td></tr>
<tr><td>What do you have on your sheet?</td><td>I [don't know], there's just loads of crosses on it.</td></tr>
<tr><td>Yeah, [mine] too. I got 'loud' right.</td><td>See, I told you we need to do heavy metal.</td></tr>
</table>
There was no understanding shown by the boys as to what properties their music had to demonstrate. The learners were unable to help each other as they were all unsure and many had incorrect answers from the first task.</td></tr>
<tr><td>5</td><td>The teacher visited each of the groups and asked them to play what they had composed. Where groups were either unsure or where they were deemed to be doing it incorrectly, he explained to them some of the key words from the first task.

All but one group were not focused and did not appear to know what to do. One group of three boys had started to assign instruments to</td></tr>
</table>

<table>
<tr><td></td><td>each other and seemed to be keen, although they were not referring to the key words as highlighted by the teacher.</td></tr>
<tr><td>6</td><td>The teacher explained that they had 8 minutes left to complete the task and then they would be performing to the class. Learners started making noises with their instruments, but they were not listening to each other as a group.

One group of girls still appeared to be confused and a boy from another group offered to help them:

<table><tr><th>Learner</th><th>Peer</th></tr><tr><td>Will you help us?</td><td>Yeah.</td></tr><tr><td>What do we have to do?</td><td>You each need to choose an instrument and make up a piece of music.</td></tr><tr><td>Like what?</td><td>Like what Sir played.</td></tr><tr><td>Oh.</td><td></td></tr></table>
The girls then tried to replicate the same tune that the teacher had played. They did not understand that they had to compose their own piece, but with similar properties to that which the teacher had played.</td></tr>
<tr><td>7</td><td>After half an hour, learners were then instructed to play their compositions to the rest of the class. When each group played, the teacher asked the learners' peers to comment on what they had heard. Examples of comments given were as follows:

"It was nice."

"They played well together."</td></tr>
</table>

	"It was too loud." "They were all doing something different Sir and they were in time." The teacher then asked the learners which of the groups' pieces had a similar 'feeling' to that which he played. They were all in agreement that the group of three boys, who I previously identified as the group that were keen to assign instruments to each other, was the most similar, but when asked by the teacher why this was learners responded that, "They played well together", and, "They know how to play the guitar and the keyboards Sir." There was no reference to the description of the music.
8	Learners were not given any specific feedback by peers or the teacher about how they needed to change or improve their compositions. Learners were not given the opportunity to make any improvements either.
9	The teacher instructed the learners to put their instruments away and then gather back around the front of the classroom. The learners showed very little respect for the instruments as they tidied them away.
10	The teacher then played a variety of melodies and asked the learners to use words to describe what it sounded like. The learners were unimpressed and asked the teacher to play songs that they knew, which he did. The learners were then more engaged in describing the music and were singing along to the melodies.
11	The learners were dismissed, and the teacher checked their uniform was worn correctly as they left the room.

From the vignette in Table 5, learners' interpretation and understanding of peer-assessment could be termed 'summative peer-marking', as the learners are unlikely to use the feedback given to improve their learning which is a requirement of feedback that is formative. The learners in the class showed a general lack of interest in the subject material and in how to complete the work set successfully. This lack of motivation may be due to a general lack of understanding of the learning intentions or a lack of self-efficacy and confidence. It was observed that there was little understanding of the learning intentions shown in the learner articulations recorded as learners either did not know what to assess or how to assess it. There also seemed to be uncertainty from the learners when engaging in peer-assessment about how to supply effective feedback related to the assessment criteria, and this lack of formative feedback may have resulted in a missed opportunity to develop meta-cognition. However, the observations in Rows 4 and 6 did indicate that when asked, learners would provide their interpretation of what they thought the learning intentions were. This demonstrated the learners' confidence to speak to other groups of learners, unfortunately, the feedback provided was not sufficiently substantial or explicitly task-related to allow the task to be completed effectively.

The learning environment seemed poor, relationships between both teacher and learners, and also between some learners, seemed fraught and poor behaviour was evident throughout the lesson, which may have resulted in a lack of motivation to engage in learning. What was evident, however, is that learners preferred to sit in friendship groups and clearly felt at ease and comfortable in doing so, although this made little difference to some learners' participation in, and engagement with, peer-assessment.

Table 6: A summary of observational data for Year 10, Band 1, Mathematics

<table>
<tr><th>Row</th><th>Description</th></tr>
<tr><td>1</td><td>The teacher explained that the objectives of the lesson were to understand and know how to interpret graphs.</td></tr>
<tr><td>2</td><td>Learners were given a worksheet with a graph on it and were instructed to work in pairs to describe the motion of the car that the graph represented. Half of the class immediately engaged in the task, whereas the remaining learners were talking about personal social issues. Learners were encouraged to stay on-task by the teacher and were instructed that they have 3 minutes to complete the task. All learners then engaged in talking about the task. Learners were then asked to work with another pair to compare their answers. Learners turned around to work with pairs on another table. This seemed to be a procedural activity as learners knew who to work with and there was no discussion about this. Examples of comments from learners and their peers included:
<table>
<tr><th>Learner</th><th>Peer</th></tr>
<tr><td>I think that the car is moving forwards and getting faster when the gradient gets steeper.</td><td>Me too.</td></tr>
<tr><td>I think that this last part shows that the car is slowing down.</td><td>Do you? Does it not mean that the car is going backwards because the distance is going back to zero?</td></tr>
<tr><td>Oh, I see. Yeah you could be right.</td><td></td></tr>
<tr><td>We can't decide what this last part means. Is it slowing down, which is what he thinks, or is it going backwards, which is what I think?</td><td>We both said it was slowing down. But... now you say it, I can see what you mean.</td></tr>
</table>
</td></tr>
</table>

	Yeah, because isn't it just the gradient that shows the speed?	
	So what does this straight line mean?	Steady speed?
	Oh yeah, you're right.	
	Learners then became off-task and started talking about social issues. The teacher then asked the class for their attention and asked a learner to go up to the front of the class and explain what was happening, using the graph on the whiteboard to demonstrate his explanations. The learner explained how the car was speeding up, and then slowing down. The teacher asked for learners to raise their hand if they agree, and then if they disagree. The teacher asked one of the learners that disagreed to go up to the front and explain what they thought was happening. This learner, who originally thought that the car was speeding up then slowing down prior to their pair talking about the answer to another pair, explained how the car must in fact be going backwards. The teacher asked the learners to raise their hand if they agree, then disagree. The whole class agreed with this new statement. The teacher then gave a detailed explanation of how a distance-time graph does not show speed, but that speed can be calculated from the gradient of the graph. The teacher then went through two more examples of distance-time graphs and asked learners to describe what they showed. Learners were keen to answer questions and did not appear to be self-conscious if their answers were incorrect. The learning environment was supportive and encouraging.	
3	Learners were given a set of cards and they had to match-up the graphs with corresponding descriptions. Learners were working in pairs again and they all seemed to be taking turns to read out cards, and trying and match them up. All learners seemed motivated. Although some learners were quieter than others in whole-class discussion, they were all confident in working in pairs. One pair that seemed quite quiet had asked if they could write on the cards, and the teacher responded with encouragement, "Well done the wise men at the front". Pairs were then instructed to move and compare answers with another table. While learners were heavily in discussion about their answers,	

	there was disagreement within one group, but it was an academic conversation and there did not appear to be any hostility. One group then asked for additional help, and the teacher sat with them at their level and talked about the mathematics problem. Other learners did not take advantage of the teacher paying less attention to them – there was a climate of learning in the classroom. Some learners finished well in advance of others and chatted amongst themselves with one learner trying on another learner's glasses, then a discussion about what they look like now compared to when they were younger. One group was unsure, and the teacher suggested that they talk to another learner who had finished the task. They did not ask him, but he decided to show them anyway. They listened to him and seemed to know now what to do. Peer tutoring and assessment was encouraged. They responded positively to it. The teacher asked for feedback as to which cards they matched and why. Misconceptions were identified and talked through. Differing opinions were asked for – learners put their hand up for what they agreed with and did not hesitate to do this.
4	Learners were then provided with a worksheet of different graphs, and asked if to complete this for homework if it was not finished within class time.
5	The teacher summarised the objectives of the lesson and asked three learners to explain what they had learnt. All three learners responded eagerly and the teacher explained how they had achieved the goals of the lesson.

Learners from the vignette in Table 6 were engaged in informal peer-assessment throughout the lesson. This approach gave the appearance of being an integral part of the normal classroom environment and a purposeful climate of learning with motivated learners was observed to have been established. The teacher encouraged learners to work with each other throughout the lesson. Informal peer-assessment was observed throughout the lesson, however, it was not given the title of peer-assessment by the teacher. In Rows 2 and 3, learners are shown providing formative verbal feedback that other learners use to improve their learning by asking questions of the peer giving feedback, thereby clarifying uncertainties. This activity had the potential to improve metacognition in all those taking part. The verbal feedback peers provided each other did not include any reference to grading, only explanations to improve understanding, and such feedback was not documented in any written form by the learners.

Observation of the learners showed them to be skilled and adept at working with peers, using dialogue to provide instant feedback which could be immediately acted on. The social setting and how comfortable the learners were working with each other could, from this lesson, be argued to have improved their motivation and engagement. As exemplified in Rows 2 and 3, the learners demonstrated good evaluation skills and showed self-efficacy and accountability for their own learning. They asked questions and responded to each other about how they had mathematically interpreted the motion graphs, with very little input from the teacher, except for one group that asked for additional teacher guidance. Learners in this observation showed confidence, good subject knowledge and little anxiety working in this learning environment.

The vignettes in both Tables 5 and 6 show that learners were not engaged in discussing assessment criteria to the extent that they are shown to in formal episodes of peer-assessment, such as the vignette in Table 4 where levels were also assigned to them. Although the learning intentions were shared with the classes in Tables 5 and 6, they were not specifically referenced to levels or grades.

Teachers' Views of how they Implemented Peer-assessment with Learners

The teachers who took part in the final interviews indicated that learners generally become more proficient at peer-assessing as they become more practiced in its implementation. They indicated that in their experience the younger, less experienced learners were less confident in how to peer-assess. It is also suggested that learners become more accepting of the benefits of engaging in peer-assessment as they grow more accustomed to it. This, therefore, suggests that learners may not be engaging in peer-assessment in primary schools, or if they are, it is carried out differently and younger learners are not yet accustomed to carrying out peer-assessment delivered by the secondary teachers, or using peer-assessment in a summative manner.

> *"[Peer-assessment improves] though. I see it when I teach kids in consecutive years. They get used to it. They might not like it, but they get used to it.*
>
> *There's no independence with some of them. They like to be spoon-fed and I think the more you give in to them at a younger age, the more and more resistance you get when they are older, especially if they are forced to be in*

the subject as many of the kids in GCSE science are. It's a core subject, they have no choice."

TeacherSci

"The younger ones always ask, "Is this [peer assessment] right?" I think they struggle more when they are younger. They ask less as they get older. We do [peer-assessment] a lot in Spanish, so they get used to it."

TeacherSpan

In the final interview, TeacherMus described apprehension about using more formal, summative peer-assessment with less-able groups, where he said that learners not engaging would have to be punished with detention. TeacherMus explained how he felt that conducting these summative peer-assessments is more successful when carried out with learners in GCSE Option groups, with learners in Years 10 and 11 who have chosen to study the curriculum subject beyond that which is compulsory. The observed lessons, as exemplified in the vignettes, seem to show that the older learners in the Year 10 mathematics class (see Table 6), although not a GCSE Option group, were significantly better at using peer-assessment than younger learners in both the science and music classes (see Tables 4 and 5). Implementation of peer-assessment by TeacherMus supports views from TeacherSci and TeacherSpan that younger learners may not be as proficient at peer-assessing as older peers. It also highlights that he finds it more difficult when learners do not participate, or with less-able groups of learners, as they are less likely to complete their assessment as described by the following quote.

"Yes, we do it a lot in GCSE not so much in the lower years. There's no point sometimes, especially with the less able groups. It ends up more work, because then you have to punish kids for not doing their assessments, then chase up detentions when they don't come. It's more hassle than it's worth. We do still do it, but just not as much as with the Option classes."

TeacherMus

However, the lack of engagement in peer-assessment may be due to the lack of explanation by the teacher about what the learners needed to do. The learners observed in the class with TeacherMus in Table 5 are newer to formative assessment than older learners, yet are not provided with sufficient opportunities to discuss, and therefore, understand the learning intentions.

In response to the learners' questionnaire 39% of respondents strongly agreed and 47% agreed to have a general confidence in their teachers' abilities to assess work correctly. This is a total of 86%, compared to 59% who had confidence in their peers assessing their work. Interviews with learners and teachers throughout the research identified that learners prefer feedback from teachers as opposed to feedback from peers due to perceptions that their peers' lack the ability to be as accurate as a trained teacher:

"There's [no] point in peer-assessment. That's what the teacher's there for."

LearnerMus2

"The teacher has more understanding of the work."

Learner K

"Yeah, they like working out what the levels and grades are, and acting as teacher, but they struggle in providing feedback. I always give my classes success criteria so that they can see what constitutes each level or grade, but even then they use comments like, "Use more key words" or, "Nice pictures"; the actual implementation of the success criteria is not as it should be."

Teacher Z

As seen in the observations of the Year 8 science classes in the parallel vignettes of Table 4, learners were uncertain about engaging in peer-assessment when they were instructed to at the end of a written task explaining the 'Journey of the Cheese Sandwich' in the human digestive system. Learners seemed hesitant about how to start. In Set 5, learners asked each other, "What are you doing?" and, "Am I doing this right?" When peers returned work to their partners, in both teaching sets the learners immediately looked for their level and began to share it with others. Questions such as, "What did you get?" (see Table 4, Row 10) were common from both Year 8 science classes, demonstrating the ego-involved perceptions of self-worth as described by Butler (1987). There was little in-depth reading of written feedback observed and learners were more concerned with the numerical level attained in comparison with others. They did not compare their level to their target level either. Target levels were written on the front of learners' exercise books, but when asked during interviews if they knew what their target level was, many were unsure. Learners did not seem to see the importance of how well they had attained in relation to their target level, but only in comparison to others. In comparison, where learners were encouraged to work

with peers in an informal manner without the use of levels or grades (see Table 6, Rows 2 and 3), there was little comparison between learners about how well they had achieved and the focus was more on improving understanding through dialogue. Such effective use of dialogue was not apparent in the music lesson (see Table 5) as although learners were encouraged to work together in composing music, the lack of understanding of the point of the exercise, poor self-efficacy and behaviour of the learners prevented this from occurring. As with the mathematics lesson (see Table 6, Rows 2 and 3), the music lesson (see Table 5, Row 7) shows that the term peer-assessment was not applied by either the teacher or the learners to describe the informal, verbal peer-assessment process that they were invited to participate in, whereas the more formal, written peer-assessment (see Table 4) was described as such.

In the preliminary interviews, Teachers Y and Z also seemed to be unsure whether learners have the ability to provide constructive feedback. There were additional concerns from these teachers that learners exhibited learned helplessness as they either would not, or did not know how to, assign a level/grade when summatively assessing a peer's work, which links in with how effective the training that the teachers received had been in enabling them to facilitate peer-assessment in their classrooms.

> *"Some say they can't do it, but perhaps it's just that they won't."*
>
> **Teacher Y**

> *"Some are not confident in giving levels or grades, and are unsure about how to give constructive criticism."*

Teacher Z

The vignette in Table 4 demonstrates that despite being directed to a level-ladder, the learners' confidence and understanding in using such a tool was poor. Issues of confidence also became apparent when interviewing TeacherSci in the final teacher interview and LearnerArt in the final learner interview, indicating that learners participated more effectively in peer-assessment if they felt superior in comparison to peers with regard to their perceived ability to provide feedback in the curriculum subject.

> *"[Learners] feel more confident [with peer-assessment] when they know that they [have a better grasp of understanding of the subject knowledge] than others."*
>
> **TeacherSci**

> *"I can talk about art easily [as I'm good at it]. But I don't like talking about my maths [because] I'm not as good at it."*
>
> **LearnerArt**

Summary of Theme: Teachers' Training with, and Subsequent Understanding of Peer-assessment, and how it is Implemented with Learners

The data suggests (see Table 4, Row 8) that teachers have interpreted and put into practice the assessment system recommended by the SLT (see Section 1.1), and its implied directive to use peer-assessment in a summative context, as a focus on peers providing marks and written feedback to a learner at the end of a piece of work. This

interpretation of peer-assessment as a summative task is not the only way in which teachers identify peer-assessment as they also describe formative peer-assessments used by learners where it occurred naturally and informally in lessons, although this was not made clear to learners during such informal peer-assessment episodes (see Tables 5 and 6).

Learners, who mainly consider only the formal, written, summative peer-assessments in their definitions of peer-assessment described how motivation to engage with peer-assessment could be affected by the negative emotions it is reported to produce. The learners only later acknowledged and included more informal peer-assessment in their definition, but this was only when questioned in the final interviews if they thought that specific scenarios of peer collaborations were indeed peer-assessment. This research indicates that the learners interviewed were not focussed on giving or receiving feedback or on how to make improvements when taking part in peer-assessments, which may raise questions about the school's emphasis on levels/grades as opposed to constructive feedback as well as the way peer-assessment was put across. Next I will describe the evidence collected on the timing of peer-assessment and how this relates to teachers' and learners' understanding of peer-assessment.

4.3 Timing of Peer-assessment

The timing of peer-assessment activities, the amount of time provided for peer-assessing, and the allocation of time for learners to address their feedback is not consistent across curriculum subjects, or even within the same subject areas. The timing of peer-assessment, that is when it is employed within the learning process, was

highlighted by the literature (Black and Broadfoot, 1982) as a major factor into how seriously it is taken by learners. When feedback is provided at the end of a topic or unit of work, and then not used as another topic or unit of work begins straight away, then it is unlikely that the learners will place much importance on the feedback provided (Black *et al.*, 2002). TeacherSci explains in the following quote that if learners are not motivated to engage in peer-assessing, they are less likely to engage with written peer-feedback provided to them on their own work.

> *"Well the kids all have to do it. Some just use the feedback better than others. If they weren't interested in carrying out the peer-assessments in the first place, the written ones I mean, they're not going to have any interest in the feedback."*
>
> **TeacherSci**

The vignette in Table 4 (see Row 10) clearly shows this lack of motivation to engage in written feedback. In the final interviews, LearnerMus provides an explanation how if peer-assessment activities are conducted at the end of a topic, she does not have the motivation to participate as there are no opportunities provided to use it and so she does not understand why it should be carried out.

> *"You never get the chance [to use your feedback because] you go on to the next topic. That's why there's [no] point [in conducting peer-assessment]."*
>
> **LearnerMus**

LearnerMath shows similar frustrations about the irrelevance of conducting peer-assessment if the feedback is then not used, but also describes how she would like to use it as she wants to be successful with her work.

> *"I try to [use peer feedback if] I get the chance. I want to do well, [but] what's the point if you're not going to use it?"*
>
> **LearnerMath**

Peer-assessment, when provided with time to reflect upon the feedback received, and to spend time improving the work, is seen as a useful activity by the learners. In particular, LearnerHSC shows extrinsic motivation to use feedback to improve her portfolio of work as it is used as evidence to pass her qualification.

> *"Well, if there's time I [use feedback to] make my work better. You have to in Health and Social [because] it goes into your portfolio."*
>
> **LearnerHSC**

Of the nine teachers initially interviewed, seven described how they used peer-assessment at least once per topic/unit. However, the number of lessons in a topic/unit varies, and not just within a curriculum subject, but across curriculum subjects possibly due to the amount of time each class needs to work on the curriculum content. Some teachers do not use peer-assessment and are honest about this in the interviews, stating reasons of time constraints and commitments to ensure the content of the curriculum subject is delivered. There appears to be pressure from the amount of curriculum content required, as expressed by the science teacher below in the final

interview, in addition to the time required to revise for examinations, which is seen as a reason not to spend time on peer-assessment.

> *"Well, sometimes they read [peer-assessment feedback], sometimes not. I think I might be to blame some of the time though because I'm always aware that we need to move on. I told my Year 11s how many lessons we have left, and we are on a countdown [to exams]. They want time to revise, do practice papers. I can't do everything."*
>
> **TeacherSci**

The vignettes in Table 4 support this statement made by TeacherSci, where formal episodes of peer-assessment are specifically planned for by the teacher to occur at the end of a topic or unit of work. TeacherSci identifies how learners may not read feedback, and with similar statements made by LearnerMus and LearnerMath, suggesting that it is not only in science lessons where these formal, peer-assessments with no follow up on feedback occurs. In these occurrences learners do not value the peer-assessment, as shown in the quotes given in this section, however, their opinions differ when peer-assessments are used more frequently and feedback is provided as LearnerMath and Learner HSC indicated that they would be of more value and would have greater motivation to use it. Although TeacherSci states that some learners do not use written feedback from peer-assessment, the observations in Table 6 show that there is a high level of engagement in feedback from peer-assessments, but it is verbal rather than written, and conducted in an informal manner throughout the lesson.

Although teachers indicated that peer-assessments were not often used, the observations in both the vignettes from Tables 5 and 6 show that informal peer-

assessment does occur regularly, but this is not classified or identified as peer-assessment by either the teachers or learners in the lessons. The vignettes in Table 4 further highlight that when teachers describe peer-assessment, they refer to the formal, written peer-assessments that occur at the end of a topic or unit of work.

Summary of Theme: the Timing of Peer-assessment

In analysing the data from observations and interviews relating to the timing of peer-assessment, it was found that there were two main 'times' when peer-assessment is carried out. These 'times' were the informal, formative peer-assessments occurring throughout a topic or unit of work, and the more formal, summative peer-assessments occurring at the end of the topics or units. The acknowledgment that informal, formative peer-assessments were occurring throughout a topic or unit of work were either rarer, or not acknowledged at all, compared to the acknowledgment of more formal, summative peer-assessments, however, this does not mean that they were not occurring. Curriculum subjects chosen as an 'option subject' at GCSE were regarded by the teachers as more successful in implementing formative peer-assessments throughout a topic or unit of work, as learners become either more proficient or confident (see Section 4.2). To provide further context, a summary of the curriculum subjects and courses available are outlined in Table 7, which details curriculum subjects as core or optional. Some teachers, however, did not feel they could accommodate peer-assessment in their lessons due to time restraints, pressure to ensure that the curriculum content is delivered, and that learners have ample time to revise for their examinations. Therefore, the timing of peer-assessment is seen to be a key factor in

how the learners engage in peer-assessment, and in relation to the formal peer-assessments, the timing of these appear to be dictated by the teacher. Timing alone, however, is not the only factor that affects engagement in peer-assessment: the evidence for reasons being given for the differing levels of engagement in peer-assessment are discussed in the next section, where learners may have different effects on each other in their social environments.

Table 7: A summary of the curriculum subjects and courses available in KS3 and KS4

Subjects	KS3	KS4	
		Compulsory	Optional
Core	English	GCSE English Literature	GCSE Drama GCSE English Language GCSE Media Studies
	Mathematics	GCSE Mathematics	
	Science	GCSE Core and Additional Science or BTEC Level 2 Science	
Foundation	Art		GCSE Art
	Geography		GCSE Geography
	History		GCSE History
	IT		BTEC Level 2 Business Administration Finance offered off-site BTEC Level 2 ICT GCSE IT
	Music		GCSE Music
	PE	PE	GCSE PE
	Personal Development	Personal Development	
	RE	GCSE RE	
	Spanish		GCSE French GCSE Spanish
	Technology		BTEC Level 2 Construction offered off-site BTEC Level 2

			Engineering offered off-site GCSE Graphic Products GCSE Resistant Materials GCSE Textiles
			ASDAN
			BTEC Level 2 Hair and Beauty offered off-site
			BTEC Level 2 Health and Social Care

4.4 Learners' Experiences of Peer-assessment

Learners' Understanding of Peer-assessment

The vignettes in Tables 4 (see Column 3), 5 and 6 provide evidence that informal, verbal formative peer-assessment was not named as peer-assessment, whereas only the more formal, written assessment activity where learners were required to use levels (see Table 4, Row 8), was clearly termed peer-assessment. When learners were questioned in the preliminary interviews, it was evident that they perceived peer-assessment to be a formal marking process in which they assign levels/grades and targeted feedback on a peer's work.

> *"[Peer-assessment is] to look at other people's work and give them a level and comment [and to suggest] how to improve their work as well."*
>
> **Learner S**

In the preliminary interview, Learner C indicated that it is not the provision of feedback that is important in peer-assessment, but the mark associated with their peer's work.

Learner C states that success criteria are provided against which he must assess his peer's work, and "give it" a corresponding mark.

> *"I look at [peer-assessment] like it's one other student in the class who is going to look at your work and give [the mark] they think it is. Basically what I would do in peer-assessment is look at the sheets, see what needs to be in it, and mark it according to the [success criteria work] sheets."*
>
> **Learner C**

Learner S not only discusses the provision of marks, but also describes peer-assessment as a summative process occurring at the end of a task. He also suggests that this feedback may not be used at all, unless he was to complete the same task again at a different date.

> *"[Peer-assessment is] when you've done a project ... people will look through the project [and] then give a level ... and [say] what they have to improve if they do that project again."*
>
> **Learner S**

Although this is how Learner C and Learner S perceived peer-assessment, Learner C did state that he conducts other forms of peer-assessment, as seen in the quote below. However, he did not regard it to be peer-assessment. In the follow-up interviews, Learner C identified that he shares ideas with peers by collaboratively working alongside them, and subsequently providing feedback as the collaboration progresses.

> *"If there are people [working together] then you can ask a wider range of [questions] ...., and you get more, [better feedback]."*

Learner C

As mentioned previously, this is further substantiated by the evidence provided in the vignettes of learners in Set 5 of Table 4, and of learners in Tables 5 and 6, where learners were encouraged to work collaboratively, however, such experiences were not described as peer-assessment opportunities by teachers.

A year after the preliminary interviews with learners, some of the same learners' views of peer-assessment were documented again in the follow-up interviews to see if there were any differences in perceptions. Most learners again only described the more formal peer-assessments in their definitions, where peer-assessment is used as a summative process.

> *"[Peer-assessment] is marking someone's work."*
>
> **LearnerMus**

> *"[Peer-assessment] is looking at the mark scheme and marking other people's [mathematics] sums to see if they've got it right. Or, reading [written work and] then saying what grade they got."*
>
> **LearnerMath**

LearnerSpan2, however, observes that learners clarify their levels of understanding before peer-assessment commences, describing a formative aspect of peer-assessment. This quote relates to the clarification of the assessor's level of understanding, and in consequence, could relate to the development of self-assessment.

"Yeah, it's like seeing if you know how to do it so it's like a test on how much you know too, not just what they know."

LearnerSpan2

Some learners did not show any understanding about other forms of peer-assessment tasks or what they can be used for. Many teachers in the observations seem to be promoting a naturally occurring form of discourse between learners, rather than one that is specifically planned for by the teacher, as shown in the final observation of a Year 7 science lesson.

At first most learners stare at the page and then they start asking each other what they think. They start to make rough notes and drawings and seem to be enjoying communicating with each other. The atmosphere is relaxed and, upon asking learners, they state they do not feel pressurised or anxious; words they describe are "friendly" and "casual". Learners continue to ask each other questions whilst working. Some learners are asking not only one, but several learners. Questions include, "What have you done?", "Is this right?", "What else do I have to do now?".

Final observation, Year 7, Science

LearnerHSC, in the final interviews, gave a perception of peer-assessment that concurred with what Teacher X explained above, that learners are unaware about how much collaborative learning and peer-assessment is actually carried out.

"Well, I never really thought about [verbal peer-assessment] [as a form of peer-assessment] but I guess it is. We help each other all the time. We share ideas and get ideas from other people."

LearnerHSC

Effects on Learner's Emotions

Observation of learners found that those more able to discuss with peers in greater detail, and clarify or negate issues of concern with their work, demonstrated in their behaviour higher levels of self-esteem (see Table 6).

Learners were given a set of cards and they had to match-up speed-time graphs with corresponding descriptions. Learners worked in pairs and they all seemed to be taking turns to read out cards, and trying to match them up. Each pair seemed to form their own private huddle. All learners seemed motivated. Although some learners were quieter than others in whole-class discussion they were all confident working in pairs.

Final observation, Year 10, GCSE Mathematics

In comparison, lower engagement with the lesson was evident in the music lesson (see Table 5) and learners in this observed class showed much less confidence in their ability to respond in the lesson, and also demonstrated much less effective peer-assessment. Thus, an ethos in the classroom that encourages the learners to develop a high level of motivation seems important.

Learners were asked to work in groups to compose a song using various instruments. They changed who they wanted to work with more than once, and either did not understand what they had to do, or were unsure how to do the task. Learners shouted angrily at each other, swearing, and name calling. All but two learners were off-task, and motivation and self-esteem were not evident.

Final observation, Year 8, Music

When learners feel comfortable and safe in classrooms then their self-esteem can be developed through valuing all contributions as in the vignette in Table 6. Safety, in terms of dealing with any bullying that occurs in the classroom, and ensuring/fostering learners' abilities to engage in positive relationships with each other, is essential if a learning environment is to be constructive. Learners preferred learning environments which promoted positive attitudes towards learning, and an expectation that they would get along with each other. Learners in Set 5 of the science class (see Table 4, Column 3) and in the mathematics class (see Table 6) who were encouraged to engage in positive relationships with peers and use discourse as a means to promote learning, generally showed better attitudes and appeared more motivated to learn. In comparison the learners in the vignettes of Table 4, Column 2 (Set 4) where the teacher prevented learners from participating in discussion, and Table 5, where learners demonstrated a lack of social skills in knowing how to discuss, showed lower motivation to engage in the task and seemed to feel they would not be successful . These issues were raised at the outset of the interviews as when learners were asked what they considered to be a 'good lesson', responses included:

"[A good lesson is when] people are not calling [each other names] or arguing, people not being loud, people with good attitudes, people who are sensible and not shouting out."

Learner R

" No shouting, ... [and] no name calling."

Learner S

"[When] people [get] on with each other."

Learner E

The quality of their learning was not mentioned, but perhaps this is resultant on the environment and how safe learners feel.

To see if there were changes in attitude for learners as a result of the teachers' peer-assessment training, learners were asked in the final interviews how they felt when specifically engaging in formal peer-assessments. Learners again showed apprehension with regard to possible bullying issues when participating in peer-assessment, from both friends and peers. LearnerArt and LearnerMath were apprehensive about bullying from peers who were not considered friends, whereas LearnerMus2 was more concerned about bullying specifically from peers that are friends.

"If people call me a geek, I just won't help them. I just stick with my mates."

LearnerArt

"I wouldn't say 'afraid' exactly, but it's not nice when you are called a geek."

LearnerMath

"Well my mates would call me [names], so I call them [names in response]."

LearnerMus2

Learners were comfortable engaging in informal, formative peer-assessment, as found in both the observations of lessons in the vignettes of Table 4, Set 5 and in Table 6. During interviews learners also stated that they like to work collaboratively in groups with peers. More specifically, the attitude questionnaire found that 52% of learners preferred friends to summatively peer-assess their work as opposed to peers they are not friends with. When peer-assessing in a summative context, learners had associated negative emotions such as fear with this activity, which they said had a negative impact upon their levels of confidence, and consequently their motivation and self-esteem. Learners' views of peer-assessment were all related to more formal peer-assessments where they had to provide written feedback. They did not seem to consider oral feedback as a form of peer-assessment perhaps because the teacher may not have explained or modelled the process of peer-assessment thoroughly.

"I didn't really like [peer-assessment]. [If] someone's written all [their work], then you have to judge it and give it a level.... I don't know how to do it."

Learner A

TeacherMath also indicated that learners' attitudes changed when moving from informal, formative peer-assessment to more formal, summative peer-assessment. These attitude changes, when using formal peer-assessments, include learners being less truthful in their feedback by providing inflated feedback, and they were also less likely to be constructive in case of hurting a friend's feelings. The learning environment, therefore, can affect learners' motivation to engage in peer-assessment.

> *"It depends on the type of peer-assessment. When it comes to giving written, constructive feedback I think they struggle. They're not sure what to do, or if they do know what to do they're not confident about it. It's funny, they do it all the time during lessons and they don't even realise because you don't call it 'peer-assessment'. They discuss their work with others and make changes to their work. As soon as you say, "Right kids, we're going to do some peer-assessment" their attitudes change, they become more reluctant. Especially when you ask them to peer-assess with someone they don't sit next to. We use a boy-girl seating plan in our department, and even if the kids don't initially know each other, they learn to get on. [However], as soon as you ask them to mark someone else's work [that they don't sit next to, they do not always participate]."*
>
> **TeacherMath**

The vignette of learners in Set 5 science (see Table 4, Column 3) also showed a clear change in attitude as when conducting informal, verbal peer-assessment they were engaged in learning, and it was evident they were comfortable communicating with peers. In comparison, when they had to participate in formal, written peer-

assessments, although they participated, their self-efficacy was not as apparent and their demeanour seemed less confident.

Teacher Z also explained how learners, when applying feedback, tend to look for the positive elements of a peer's work and comment on these. Providing constructive feedback, however, was stated to be more difficult either because of a lack of understanding of what to do, a lack of self-confidence, or social factors involving maintaining positive relationships with peers.

> *"Many of them instantly mark their friend's work, and say how pretty it is, or that they have explained something well, but are not descriptive in [providing constructive feedback]. They find giving targets even more difficult. Not that I think they don't know what to do, I just think that they lack self-confidence and don't want to upset their friends."*
>
> **Teacher Z**

Observational data, as exemplified in the parallel vignettes of Table 4, show that learners had lower confidence in their ability to provide constructive feedback in the formal peer-assessment episodes and in addition it was not seen as important due to its lack of perceived usefulness by learners to improve their learning.

In discussing what learners understood to be peer-assessment, learners in the preliminary interviews stated that they would prefer to work with peers that they consider their friends when engaging in written feedback tasks. However, learners also explained that they may not assess their peers' work fairly as they did not want to be in a position where they may lose friends. Where learners were afraid of damaging

friendships it highlighted a lack of self-esteem and associated negative emotions engendered by peer-assessment, as stated by Learner M in the preliminary interviews.

"You might [assess] a friend's work [as] better [than it is because] you don't want to upset them."

Learner M

Another issue highlighted was linked to being bullied by peers, if they upset them by assessing honestly in situations where they felt obliged to assign a low level. This is corroborated partly by the attitude questionnaire data, where 48% of learners did not enjoy assessing a friend's work. Some peer-assessors were concerned about affecting the self-esteem of the assessed learners, their friends in particular, as described by Learners C and N. Not only did Learner C explain that he did not want to upset his friends, but also stated that it affected his own emotions too as he did not like to be the person causing upset.

"I don't know [what is best to do when peer-assessing]. [Do I] give them a better level because they are your friend [as I do] not want to hurt people. Or you might give them a bad level and feel bad yourself [because] you don't like upsetting people."

Learner C

"It's not very good when you [assess] a friend's work because they might not have done it [correctly] and you don't want to upset them."

Learner N

In the final interviews, LearnerHSC stated that she liked her work to be treated seriously, implying that she does not want any hard work she has carried out to be ridiculed in any way. This shows an apprehension about receiving feedback from peer-assessment, which is only relieved when the feedback has been received and it has been done respectfully.

> *"[I don't mind peer-assessment] so long as people aren't silly or draw rude pictures on your work."*
>
> **LearnerHSC**

Learner O also described how if a learner perceived a peer to lack understanding in how to carry out peer-assessment, it might lead to arguments. The peer–assessor may be apprehensive until their assessment of a peer's work has been accepted by that peer as valid feedback.

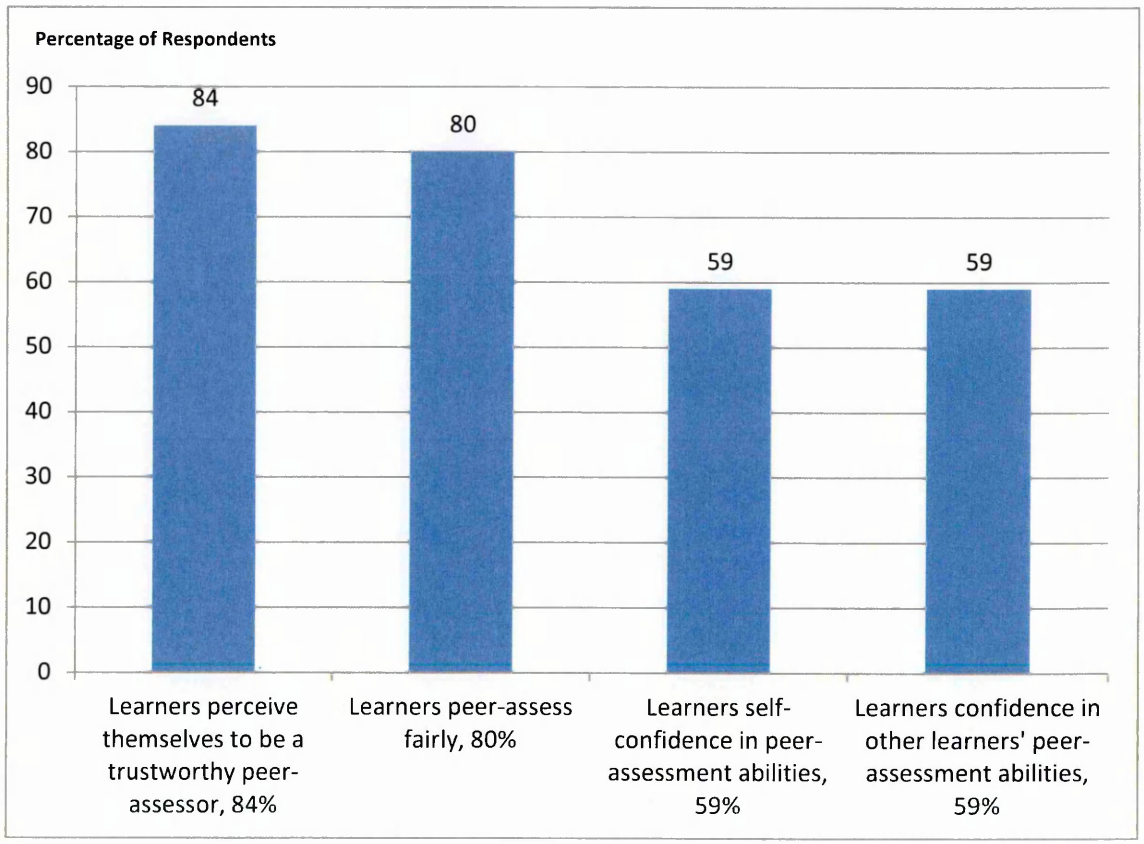
> *"I don't feel very confident [when peer-assessing] because what if you give them the wrong level?.... They might argue with you and say it should be [a higher level]."*
>
> **Learner O**

Learner S, however, expressed in the preliminary interviews a view that peer-assessing unfairly may not have all negative connotations, as when, what may be an inflated assessment, is returned to peers, it,

> *"Boosts your confidence."*
>
> **Learner S**

The discussion in this section relates to the summative assessment of a peer's work. Although the attitude questionnaire data showed that 34% of learners strongly agree, and 50% of learners agree that they perceive themselves to be trustworthy peer-assessors, their confidence in others to peer-assess is lower. 80% of learners either agree or strongly agree that they peer-assess fairly, but what exactly learners consider as being 'fair' requires further consideration as only 59% of learners agree or strongly agree that they are confident in others peer-assessing their work. These data are summarised in Graph 2.

Graph 2: A graph showing learners' responses to the attitude questionnaire



The vignette of the music lesson (see Table 5) highlights that learners either have inadequate training in how to conduct peer-assessment, a lack of understanding of the criteria that they are required to assess and grade the work against, or because they struggle with the curriculum content and subject knowledge, which may be tied to an understanding of the criteria. The final interviews with learners gave a greater insight and indicated why they do not have the confidence to undertake peer-assessment, including the inadequate training and lack of understanding as previously mentioned, but also that peers may not understand the context of what learners have written.

"[I don't like peer-assessment] when I don't know what to do."

LearnerDan

"I don't like peer-assessment when I don't understand what they've written."

LearnerMath

"I feel stupid... when I don't know what [to do]."

LearnerMus

"I'm much better when I know something I can help with."

LearnerHSC

Learners' also clearly displayed feelings of nervousness and anxiety associated with conducting peer-assessment, or displaying their work to peers not considered to be close friends, as shown in the Year 7 dance observation below.

In a Year 7 dance lesson learners paired up with peers of their choosing and practised performing a dance piece that was then to be performed in front

of the class and video recorded. A group that seemed confident in practice was not as confident in the performance. In comparison to her friend she said, "I look messy compared to you". Her friend was supportive and encouraging and said, "You look fine, it's good". It was observed that the video recorded performances were not all attempted with the same skill that was shown during the practices, raising the question as to why this was so. Possible peer pressure? Embarrassment?

Final observation, Year 7, Dance

LearnerMath2 indicated in the final interviews that these levels of anxiety are higher when peer-assessing work for someone not known well to them. This was not said when working with friends during peer-assessment.

"I get nervous when I wait for my feedback, but then it's never as bad as I thought. It's good in things like Spanish when you have to re-draft your work."

LearnerMath2

"I'll do [peer-assessment], but get all anxious when it's with someone who I don't really know."

LearnerMath2

The observed lessons, as exemplified in the vignettes presented in Tables 4, 5 and 6, show that with regard to planning for peer-assessments there does not appear to be continuity either between curriculum subjects or within discrete curriculum subjects by different teachers. In the final interviews, teachers highlighted their frustration in

planning for the use of peer-assessment, only to have its implementation and effectiveness affected by external factors such as learners' social problems that may hinder peer-assessment implementation and facilitation, or learners' poor levels of motivation to engage in either the curriculum subject, topics within in it, or in the peer-assessment process itself, due to the perceived lack of enjoyment they associate with it. The following quotes from the final interviews with teachers describe such teacher frustrations.

> *"Well, you can plan [un]til the cows come home, but if the kids aren't interested, it just doesn't work. Sometimes it's more bother than it's worth because then you have to start chasing kids that aren't doing it right. And it's not fair on the ones that do try hard because they might send their work to be peer-assessed and it comes back with worthless, or even no comments on it. That knocks the keen kids so next time you do it, even they are reluctant because they say, "What's the point?" or "Nar, I'll look like a geek"."*
>
> **TeacherICT**

> *"Yes, you can plan for it, but it is very much dependant on the class. Sometimes a class that it works well with one lesson, it might not work the following lesson. It depends on who they've fallen out with at break time, who is their friend on that particular day, what lesson they have come from and they might be hyper or even angry sometimes."*
>
> **TeacherMus**

"I think it depends on the topic you are teaching too. You might engage them [in] one topic, then not the next. It's hard to please all students at the same time."

TeacherArt

Summary of Sub-theme: Emotions

The data suggests that the systems of peer-assessment regularly used and identified as peer-assessment in classes creates episodes that engender negative feelings in the learners. They felt unsure about how to assign the levels that they were required to write on their peers' work, and they were uncertain how to interpret the levels assigned to their own work. They became anxious about how to grade work and clearly considered that there was a potential for favouring friends, bullying others or being bullied themselves within the system as applied in school. What this means in terms of improving the system, so that the power of peer-assessment identified by some of the teachers, such as improved confidence, motivation and self-reflection (see Section 4.2), can be appreciated by the learners, will be critically analysed in the next chapter. Next I will consider the evidence collected on peer pressure.

Peer Pressure

If learners are given the choice between peer-assessment and teacher assessment, 86% prefer and trust teachers to correctly assess their work. In comparison, 12% of learners strongly agree and 47% of learners agree that they trust peers to correctly assess their work. Learners did not indicate if they knew that teachers checked their peer-assessment.

> *"I think it comes down to trust. [Learners] might not want to peer-assess if they are working with someone they don't trust."*
>
> **TeacherHSC**

In the final observed Year 7 science lesson, both male and female learners were enthusiastic about this collaborative learning and were eager to share ideas. When learners were asked to 'snowball' their ideas in groups of four the group dynamics changed. Learners who may be considered to be more socially accepted or 'popular' characters that had participated in paired discussion were then reluctant to acknowledge such prior discussion, and were more willing to sit back and let others compare ideas.

Support and encouragement was an issue identified that affected learners' engagement in peer-assessments. Learners with more supportive peers actively engaged in peer-assessment more than learners whose peers were not supportive. Teachers also stated that girls generally were more supportive in written peer-assessments, as also observed in the vignette within Table 4 (see Column 2, Row 10), whereas, according to TeacherSci in the extract from the final interview below, boys

were more effective in the practical, hands-on peer-assessments. Some learners, however, have no internal motivation to participate.

> *"It can go both ways. If the peers are supportive, they are more likely to engage. If peers are unsupportive, less engagement. Girls like working together. Boys, not so much. I would say that in general, boys are better at doing peer-assessments in experiments, girls more so with written work. Not every time, but most times."*
>
> **TeacherSci**

> *"We don't have the choice of doing experiments, but I also find that girls are generally more supportive and so engage more in peer-assessment."*
>
> **TeacherSpan**

> *"Yes, the least supportive peers are generally the 'cool' boys that would prefer to be playing football or blowing something up."*
>
> **TeacherMath**

> *"Some kids are very easily led. Others have no internal motivation to do it. Some are lazy and sit back and let others get on with it, then reap the benefits."*
>
> **TeacherICT**

In the final learner interviews, when discussing learners' engagement with peer-assessment some described greater encouragement from peers who were considered 'friends'. This links in with learners' self-esteem and their willingness to become more

involved, as they are less concerned with the negative effects of peer pressure. Written, summative peer-assessment, especially, was described in the final interview by LearnerDan as isolating and lonely, describing more of an individual assessment rather than a communicative peer-assessment.

> *"When you work with other people who want to do well then you help each other. I like that, then I don't feel as alone. I get scared when I have to work in silence or do assessments, or write peer-assessment stuff."*
>
> **LearnerDan**

LearnerArt and LearnerMus described, in the final interviews, how their verbal peer-assessments were better conducted with friends as they have more of a relationship with them and can communicate more easily. This is an example of positive peer pressure, or peer encouragement, with associated feelings of belonging and acceptance.

> *"I trust [my friends] to tell me if my art is rubbish, or if they like it. They know what I like and sometimes I can just tell from their face what they're thinking. You can't do that with someone who doesn't know you."*
>
> **LearnerArt**

> *"[Verbal peer-assessment with friends] is less pressure. Your friends know what you mean when you try and explain something. Other people might not."*
>
> **LearnerMus**

However, this cannot be said for all learners. Even if provided with the opportunity to work with friends, some learners choose not to engage in peer-assessment due to how they think they would be perceived by peers. There seems to be a culture of believing they will be more popular with peers if they show distain for learning and improvement, even if perhaps, they do not think this. Observation of the music class (see Table 5) did indeed reveal that learners showed distain and were removed from learning as exemplified by their behaviour and engagement in the lesson. LearnerMus2 and LearnerICT, both in lower bands of compulsory Key Stage 3 curriculum subjects, state that the pressure from peers not to succeed is greater than the individual's willingness and quest for advancement.

"Me and me mates won't do [peer-assessment] as that's [not cool]."

LearnerMus2

"My mates would think I'm a right geek if I start talking about work."

LearnerICT

"I just like [talking] to [my] mates. It's a bit of a skive when the teacher thinks you're [talking] about the work. [Talking about] work's [boring]."

LearnerMus2

Summary of Sub-theme: Peer pressure

Some learners were most likely to work more constructively with peers regarded as friends, due to the feelings of comfort and levels of support given. Female learners, in

general, were more susceptible to engaging in written peer-assessment as there was more positive peer pressure to make improvements and help each other. Male learners, in comparison, exhibited more negative peer pressure during written peer-assessment, where it was less socially acceptable to engage in it. Male learners, however, engaged readily in more practical peer-assessment. This links in with the self-esteem section, and it is difficult to say that the effectiveness of peer-assessment is due to just one factor. Rather, there are inter-factor relationships that affect engagement and effectiveness of peer-assessment.

Reading/Writing

When asked if there were any additional factors that affected how learners engaged in peer-assessment, understanding a peer's handwriting became an apparent worry. Learners in the preliminary interviews did suggest, however, that they would like to communicate with peers to determine the meanings of what was written in either the task content or the feedback. If allowed to communicate in carrying out more summative, written peer-assessments, learners would appreciate it if peers discussed the work so that they could more accurately assess the content. Learners B, F and S all agreed that they would ask peers to explain what they had written, but there were mixed opinions when it came to providing positive or negative feedback:

> *"[Learners] might feel good [about being asked to explain their written peer-assessment feedback] because they might have used a new word that*

[I] haven't used. Or, [learners] might feel bad because you [couldn't] read their writing."

Learner A

When asking learners which subjects they would feel most comfortable conducting peer-assessment in, the issues of handwriting also arose. In the preliminary interviews, Learner K expressed his opinion that he feels most comfortable conducting peer-assessment in ICT lessons where mistakes such as spellings could be erased and corrected easily. The use of computers in correcting spelling errors was also highlighted by TeacherICT in the final interviews, in addition to TeacherHSC who explained how the use of computers not only helped with checking the spelling of words, but also in improving the general presentation of work.

"The girls in health and social care are usually very good with presentation of their work, and we use computers a lot too so that helps, like [the teacher of ICT] said, with spell checks. They know when there's a little red line they have to change a spelling."

TeacherHSC

'Messy' handwriting is an area of contention for both the writer of the work, and for the peer-assessing it with issues identified in the final interviews as not being able to understand what a peer has written when peer-assessing work as it is illegible, or not being able to read the feedback. It can increase anxiety in both situations and reduces motivation to engage in peer-assessment, as LearnerMus2 describes how he knows

peers would struggle to read his poor handwriting, so fails to see the use of a peer-assessing his written work.

> *"Well, I [know peers can't] read my writin[g], so there's [no] point anyone else [peer-assessing] my work."*
>
> **LearnerMus2**

LearnerMath is perhaps the type of peer to which LearnerMus2 refers, as she states:

> *"It makes it hard when you can't read someone's work because of their handwriting."*
>
> **LearnerMath**

Learners, again, explained how peer-assessment with a verbal element inclusive in its implementation may be beneficial in combating any difficulties in reading or writing. Peer-assessors with poor reading suggest that they would ask learners to read their work to them, or ask another peer to facilitate in deciphering elements they could not read because of problems deciphering handwriting.

> *"Oh yes. [I'd ask them to read out their work to me.] I'm not bothered."*
>
> **LearnerHSC**

> *"If they were my friends I would [ask them to read out their work], but not anyone else, I just wouldn't mark it."*
>
> **LearnerDan**

"I would ask them, or ask someone else I was sitting next to if they knew [what the words were meant to say]. Or I would ask the teacher if they didn't know."

LearnerSpan2

Summary of Sub-theme: Reading/Writing

This section has identified that there are concerns from learners with regard to hand-writing and reading ability. Some learners are concerned about the quality of their own hand-writing, whereas others are concerned with understanding the legibility of a peer's handwriting. Some learners have a low reading ability that may not allow them to engage in written feedback from a peer, or participate in providing feedback to a peer as they cannot read what was written in the set task.

Learning Environment

Learners' emotions engendered during the process of peer-assessment has highlighted that the relationships with peers impacts upon the effectiveness of peer-assessment. However, the learning environment they are in has a role in establishing these relationships, as is discussed in this next section.

Of the learners who responded to the attitude questionnaire, 70% strongly agreed, and 27.5% agreed, that they prefer to work in groups as opposed to on their own. No learners indicated on the questionnaire that they preferred to work alone, although 2.5% indicated no preference. One learner from the observed music class (see table 5, Row 3), however, did prefer to work alone. The interviewed learners overwhelmingly

stated that they thought that group work was an integral part of a good classroom environment. Upon further questioning about group size and members of groups, when learners did engage in work with others the following was found:

"I like to work in groups of 3, 4 or 5."

Learner G

"[I like] sitting next to friends, [having] lots of discussion."

Learner B

"[I like] talking in a group."

Learner S

Not only did learners prefer to work in groups, but they overwhelmingly stated that they preferred to work in groups with their friends. The attitude questionnaire showed that 31% of learners disagreed and 27% of learners strongly disagreed to working in groups with peers other than their friends. Observations of learners as exemplified in Tables 4, 5 and 6 showed various degrees of motivation to work with peers, although it was clear that the vast majority preferred to work with friends.

"[I like working] in a group with friends."

Learners F and G

The reasons given for this preferred learning environment were trust, comfort and security. This supports the statements made by some learners in the interviews who stated that they did not like 'name calling', they like peers to get along with each

other, and they like sitting next to friends they can trust, as they are more comfortable doing this than sitting next to peers not considered to be friends.

"[I prefer it when] people get on with each other."

Learner E

"[I like] sitting next to people you trust."

Learner G

"I enjoy working together... in pairs or groups... with people you know, not feeling uncomfortable [when not sitting next to friends, but feeling comfortable] sitting near friends."

Learner N

"[I like] working in groups or partners, with people you feel comfortable with sitting next to you."

Learner M

"So long as [I conduct peer-assessment] with [my] mates, it's ok."

LearnerICT

"Working with friends is better than working with others you don't know as well."

LearnerMath

The preliminary observations of learners showed that there seem to be occurrences of peer-assessment when the learners are expected to assess work by peers within the

class, which has been allocated on a random basis and contains the learner's name, but the learners do not know who is assessing their work until they received the feedback which included the peer-assessor's name. This can be seen in the vignette of the observation of a Year 8 science class, Set 4, in Table 4. They then do not have an opportunity to talk, communicate, or ask peers questions for clarification. This indicates that peer-assessment is in written format only when returned to the learner. If learners are unsure about what the feedback means, or cannot read it due to either poor handwriting or low literacy levels, there is no facility for checking what it says with their peer. Learners may be able to ask their teacher, however, this relies on the availability of the teacher to see all learners that may require this assistance. Hence, they may be less able to access the feedback, and consequently it would be of little use and ineffective in allowing the learner to improve their work. If there are learning support assistants in the class they may be able to help learners with low literacy levels with peer-assessment, but they are not always available in every class that requires them. If peers were able to sit with each other to discuss the work being assessed, then this discourse between peers would allow learners to ask questions concerning understanding, and it would also allow them to probe answers to questions that may not be answered through written feedback.

> *"Maybe if [the peer was] there and you were both [assessing work] at the same time [peer-assessment would be better]."*
>
> **Learner A**

In support of the findings from the attitude questionnaire, where 97% of learners either agreed or strongly agreed that they liked to work in groups, findings from the

preliminary and final interviews provide reasons for this. Learners stating that by working collaboratively with peers, friends especially, they have the opportunity to share ideas and come up with thoughts that may not have been considered from individual work.

> *"I found the discussion quite good.... and I'd rather do discussions so that I get [a range of different ideas and] answers."*
>
> **Learner C**

> *"Well I'm fine about doing individual work, I can do it, but I rather like working in groups better than individual."*
>
> **Learner S**

Learner A suggests that which was recognised by Torrance and Pryor (2001) discussed in Section 2.4, where it would be beneficial to incorporate written formative peer-assessment when working with friends, rather than only presenting a summative mark, as it allows learners the opportunity to continually use dialogue to improve learning. This is potentially beneficial both for the teachers and their accountability to the SLT to show that peer-assessment is conducted in lessons, and also to encourage learners to actively engage in peer-assessment as they have the opportunity to discuss their work rather than working in isolation.

> *"Maybe if they were there and you were both marking it at the same time. So you do their work and they do your work and you do it at the same time. That's why it would be better to do it together, then you could tell them how to improve it, instead of just having a level."*

Learner A

The interviewed teachers also agreed with the notion of learners working together with peers as being beneficial for the effectiveness of peer-assessment in the context of formative assessment. The rapport that learners can have with one another can offer a supportive and nurturing environment in which learners can find communication easier as they know how to relate to, and support each other.

> *"So long as they can work with who they want to work with, it goes a lot smoother. Less resistance. You know, it might have something to do with their own interests, so they find it easier to talk to others with similar interests."*

TeacherArt

To reduce the formality and resistance of peer-assessment participation by learners, TeacherHSC recommends that peer-assessment should be made less of a formal procedure, with active encouragement of formative peer-assessment. In addition to the statement made by Learner A above about the value of immediate oral feedback, the vignettes (see Table 4, Column 3, and Table 6) highlight how such informal peer-assessment practices, where learners verbally provide formative feedback as the work progresses, does reduce resistance to peer-assessing by the learners, and indeed this form of peer-assessment seems to be actively welcomed. Formative peer-assessment was stated to be a natural process in the learning environment of some curriculum subjects, but it is clear that there is no consistency between curriculum subjects with regard to this, as exemplified in the vignettes of Table 4 (Column 2) and Table 5.

"Making [peer-assessment] less of a formal 'test' where [learners] are being judged on the quality of their written assessments [would be better by] more encouragement of verbal peer-assessments."

TeacherHSC

During the final interviews, learners stated what they considered the benefits of employing oral feedback to be, including reducing negative emotions and allowing opportunities for more of a discussion, where clarification may be sought if necessary, which is not always possible with written peer-assessment. This is not to say that written feedback is not used, as LearnerSpan2 prefers to make his own written notes that can be later referred to if necessary.

"[Oral feedback] is much better [than written feedback from peer-assessment]. I [still] like to make my own notes though. That way I can understand [the feedback] better when I read it again. You can't always read other people's writing."

LearnerSpan2

LearnerHSC also describes how the atmosphere is not as formal when peers are allowed to discuss work, as the choice of language and the way it is communicated can create a positive learning environment, while LearnerDan describes the hermeneutics when written feedback is misinterpreted.

"You have a bit more of a laugh with [feedback presented orally]. [It's not as] serious [as written peer-assessment]. You can [make fun] of some work, but in a nice way, then have a conversation about it. I don't like it when

[feedback from peers is] just a sentence written down. I like to talk about what they mean so I can understand it better."

LearnerHSC

"If you talk to your friends, then they can't take it the wrong way, [whereas] if you wrote something down they might take it the wrong way and then shout at you."

LearnerDan

TeacherMath, in the final interview, stated that the ability compatibility between learners may affect the effectiveness of peer teaching and peer-assessment, as it may be beneficial for learners to peer-assess work from peers of a similar ability. These gains may be due to a learner with a lower ability that is unable to offer any constructive feedback to a learner of higher ability. Alternatively, a higher ability learner may not be able to communicate effectively in language that a lower ability learner would understand, and may not have the ability to personalise feedback.

"The higher ability kids don't want to work with lower-ability kids because they don't get anything from it. You have to make sure that all kids are suitably challenged. It might help some kids, but for the higher ability ones it could actually be more detrimental working with others, helping them, but receive no help back."

TeacherMath

Summary of Sub-theme: Learning Environment

Learners stated that they preferred to work in groups, with learners whom they considered friends. In conducting formative peer-assessment throughout their work, learners saw the benefits of sharing ideas in a secure, supportive and nurturing environment. Learners described more negative factors associated with formal, written, summative peer-assessments, preferring continual collaboration with peers. Learners felt that they could communicate better in a verbal form with friends.

In the next section, the social and family influences are discussed and summarised.

Social/Family

TeacherMus and TeacherSpan stated their frustration in trying to engage learners with peer-assessment if they had pre-conceived ideas, influenced by family members, about the importance of engaging in peer-assessment. This issue seemed more apparent for learners in KS3. Teachers stated in the final interviews that, although learners may not directly use the subject content, other skills are developed in different curriculum subjects that would be of benefit to future study, employment or social skills. TeacherSpan indicated her frustration in trying to communicate to some parents the importance of their curriculum subject, in the hope of achieving support in engaging learners in their classes. TeacherSci, however, described how she has had positive communication with parents and engaging them with support in encouraging their children. TeacherSci did note, however, that the KS4 science curriculum offers a range

of different courses such as GCSEs and BTEC Level 2, suited to the needs of individual learners, which may not be possible in all curriculum subjects.

> *"I think we have more luck in science because it's a core subject. You can usually get the parents on-board. If you speak to them at parents' evening, or over the phone, you might get a few that are a bit funny with you, but most of the time they are very supportive. This shows in the kids too. And you can always say, "What would your mother say if she knew you were doing 'this'?". Then again, we do teach a range of different courses and try and suit the needs of individual kids so I think that helps get both kids and parents on board."*
>
> **TeacherSci**

Learners reported that they copy their parental sentiments, and use their parents' views of a subject to choose not to engage in it, or associated activities such as peer-assessment.

> *"If [a subject is] boring I don't care. Like Spanish – they always [make] you do it in Spanish. [My mother] says I [don't] need Spanish though so I'm not bothered."*
>
> **LearnerMus2**

Difficult issues at home are also said to affect learners' levels of engagement in peer-assessment on a daily basis. Teachers cannot predict this, but say that they must be aware that there are some things out of their control and although peer-assessment may be planned for, the feasibility of carrying it out is not always possible.

"Ooo, [learners emotions are] very up and down. Kids fall out with each other, they might have had a bad time at home. All sorts go on that you don't know about. Sometimes it's scary to think what. You just have to be mindful of other factors that might affect them in class."

TeacherHSC

Family influences, both positive and negative, are reported to affect the way in which learners interact with one another. Some parental descriptions are more positive in that they encourage their children to work with learners who will not negatively influence their behaviour, whereas other parental sentiments are more negative and there is encouragement of retaliation to peers if they perceive their children are being bullied.

"[My mother] doesn't like it when I work with [name of learner] because they keep getting me in trouble."

LearnerDan

"My mother says if someone says something horrible to ya, say something back."

LearnerHSC

"[My parents] have had to come in and speak to the Head of Year before about bullying, so I don't think they would like it if I was forced to work with people I don't like."

LearnerArt

Concerns were voiced that not all learners respond to peer-assessment in the same way, and this may be a barrier to successful peer-assessment implementation, especially if some learners are quiet or shy.

> *There is a perceived barrier to peer-assessment "sometimes when you have the quiet, or grey kids. You know, the ones that are a bit shy."*
>
> **Teacher X**

Summary of Sub-theme: Social/Family

A family's influence on a learner's engagement in peer-assessment, and indeed in the curriculum subject as a whole, can be either positive or negative. It is not always easy for teachers to communicate with parents as to the benefits of engaging in some curriculum subjects, with a preference from some parents that their children undertake tasks that, from their perspective, will be relevant to their future employment. The benefit of engaging in peer-assessment to the benefit of the life-long learning skills of the learner does not appear to be always apparent to learners or their parents.

4.5 Reflections from Teachers and Recommendations for Peer-assessment Training

The teachers that were interviewed all confirmed that they thought peer-assessment was of benefit to the learners, but identified that there may need to be a whole-school approach to training both teachers and learners into its effective use, so that there is

consistency for learners between different lessons. One method of ensuring consistency was suggested by training both tutors and their respective tutor groups in the use of peer-assessment in personal development lessons. These lessons are delivered by tutors, and would allow all learners to have the same experience, providing form tutors presented the training in the same way, and teachers engaged these learners in a similar way to within their own curriculum subjects.

> *"I don't think it's ever too late [for learners to engage with peer-assessment]. It's hard to know how well they use peer-assessment in other subjects, so we need a school-wide approach. Personal Development lessons would be the perfect opportunity to do this, because as tutors delivering it, then we will all be singing from the same hymn book."*
>
> **Teacher Y**

4.6 Summary of the Findings

The findings show that the interpretation of the peer-assessment system recommended by the SLT has skewed the documented use of peer-assessment to the more formal, written occurrences of peer-assessment. There is less emphasis placed on the more natural, informal occurrences of peer-assessment, and therefore, the learners have a view of peer-assessment as a formal marking exercise. This has engendered negative emotions and has appeared to have a negative impact on the self-efficacy of some learners, especially if learners are socially uncomfortable participating in formal peer-assessment activities. Learners' uncertainty in how to carry out peer-assessment, in addition to the social factors and learning environments,

all interplay with how effectively peer-assessment is facilitated in classrooms. With regard to the timing of peer-assessment, similar results were found to those in the literature review (Black and Broadfoot, 1982), where if learners are not given the opportunity to use peer-assessment to improve their work it can lead to negative effects such as learners' perceptions of the value of peer-assessment, thus reducing their motivation to participate. What came across strongly in the findings of this research, however, is that learners have positive attitudes to collaborative learning, especially when working with friends, as it allows and encourages a non-pressurised, positive environment of reflective practice. The training of teachers with the use of peer-assessment, therefore, has not been as effective as it could have been, and its potential effectiveness of improving learners' self-esteem, motivation, and metacognitive thinking as outlined in the literature review did not materialise. The themes identified in this chapter will now be discussed in the following Discussion chapter.

Chapter 5: Discussion

In this discussion chapter, the themes from the findings, described below, will be discussed, in addition to future implications of this research:

- The assessment system recommended by the SLT, and how it is interpreted;
- The importance of documenting peer-assessment;
- Learners' uncertainty about assessment;
- Effects on learners engaging with peer-assessment;
- The timing of peer-assessment;
- Attitudes to collaborative learning.

The themes that emerged from the data related to the CPD that was provided for the teachers concerning peer-assessment, how this was interpreted, and the subsequent impact the implementation of peer-assessment had upon the learning environment and learners' levels of engagement within peer-assessment activities. There are a number of issues raised throughout this discussion, including the timing of peer-assessment, literacy levels, the importance placed on marks rather than comments relating to improving work, and social and family effects, all of which affected learners' levels of self-esteem, motivation, and engagement in peer-assessment.

5.1 The Recommended Assessment System from the SLT

The following sections draw upon the research evidence, presented in the vignettes in Tables 4, 5 and 6, to evaluate how teachers interpreted the CPD relating to peer-assessment, and how peer-assessment was actually implemented with the learners in school.

'Peer-assessment' in Action

The findings intimate there was a general lack of understanding amongst teachers about the recommendations provided in the literature concerning the use of effective peer-assessment in the classroom. The CPD session focussed on a formal version of peer-assessment, employed at the end of a learning episode, which required learners to mark others' work using levelled criteria that were provided on printed sheets, and to provide both a level and written feedback. This practice is exemplified in the vignettes within Table 4 (see Row 8). It may be argued from the way that peer-assessment was realised, illustrated in the vignettes in Chapter 4, that the CPD and, therefore, the SLT's understanding of the requirement of peer-assessment, skewed the teachers' understanding of the notion of peer-assessment towards this formal, summative version. This view was evidenced further in the interview with Teacher Y in the follow-up interview (see Section 4.2), and with learners in both the preliminary and follow-up interviews (see Section 4.4), who when asked about peer-assessment, referred to formal, summative ways of using of peer-assessment, judging against formal criteria and resulting in the assignment of levels or grades to work. The

training, or perhaps the SLT's interpretation and response to the demand from Ofsted that peer-assessment be provided in a documented form to provide evidence and accountability, can therefore be viewed as flawed. The attention of the teachers was focused on meeting the requirements of the SLT and, therefore, they used a formal, non-formative form of peer-assessment. It seems that the school as a whole had missed an opportunity to enrich learning by encouraging the use of informal and naturally-occurring peer-assessments.

The examples of successful use of peer-assessment that the teachers brought to the CPD training to show colleagues may have introduced an expectation that peer-assessment was written feedback from learners on another learner's work. Indeed, it would not have been possible to bring examples of natural occurrences of peer-assessment as these are most often in a verbal form, or perhaps given through peer-teaching in a practical subject, and therefore, almost impossible for a teacher to document. Thus, it seems that conditions were set up through the CPD for learners to only think of peer-assessment as a formal, level or grade related assessment.

Understanding the Concept of Peer-assessment

In relation to the research questions, by observing and interviewing learners, listening to their 'voice' and ascertaining their perceptions on peer-assessment, this research highlights current strengths and weaknesses of the system used in this school and factors that may impact upon the effectiveness of peer-assessment.

Questionnaire data showed that 51% of learners agreed that they conducted peer-assessment in lessons. Learners were also asked, not only if they thought peer-assessment was conducted in lessons, but also if it was an *integral* part of the classroom environment, and only 49% of the respondents, acknowledged that it was. As a definition of peer-assessment was not provided in the attitude questionnaire, this meant that the learners' perceptions of peer-assessment were wholly based on their experiences in the classroom. Thus, they were reporting on activities labelled as 'peer-assessment' by their subject teachers which, as is illustrated in the vignettes of the science lessons (see Table 4, Row 8), meant formal peer-marking events using levels or grades. However, natural, informal peer-assessments (Black and Wiliam, 2009) were confirmed by observation, such as those illustrated in Table 6, Row 2, to be in existence as part of a natural classroom environment. Natural classroom occurrences were recorded in the observations, both as effective occurrences where learners successfully engaged in informal peer-assessment with regard to analysis of motion graphs in a mathematics class (see Table 4, Row 5, and Table 6, Row 2), and also ineffective informal peer-assessment in a music class where learners were unable to provide sufficient feedback for learners to fully improve their understanding when composing a piece of music (see Table 5, Row 4). Observations (see Table 4, Row 8), however, exemplified that it was common for only the formal written peer-assessments to be given the label of 'peer-assessment' by a teacher. In addition, the interviews with learners (see Section 4.4) further evidenced that they perceived and understood peer-assessment to be a formal, written activity providing feedback with levels or grades, and did not acknowledge the natural, informal peer-assessments that occurred in lessons, thus providing an explanation why in the questionnaires the

percentage of learners acknowledging they conducted peer assessment was not higher. Therefore, using peer-assessment with such written feedback and levels/grades has mediated learners' understanding of what constitutes peer-assessment. Observations showed that peer-assessment was in use regularly, but in such a perfunctory manner that the learners did not know they were doing it, for example when discussing the speed of cars (see Table 6, Rows 2 and 3).

When asked whether they communicate with peers and provide feedback in lessons, the learners indicated that they work with peers in groups, engaging in 'pair talk' and in 'discussion groups'. The strategies of 'pair talk' and 'discussion groups' were introduced within the three-hour CPD session for teachers and these were observed in lessons, as seen in Table 4, Row 5 and Table 6, Row 2.

It can be deduced that teachers in the school are interpreting peer-assessment as what Black *et al.* (2003) describe as peer marking. This is more of a summative tool where learners are not given the opportunity to discuss their work as frequently as they would during informal peer-assessment occurrences, and there was no opportunity to utilise peer-assessment as a learning tool with a view to identifying misconceptions and subsequently making improvements to their work (see Table 4, Row 11).

Limitations to the Implementation of Peer-assessment

As an insider researcher I was able to deduce, from observation and informal discussion with teachers, that the learners with whom teachers were less likely to implement peer-assessment were those whose behaviour was considered challenging.

Although the general behaviour of some classes was notably poorer than the norm, as I observed in Table 5, Row 5, not all learners in these classes were party to this poor behaviour. It was found that the music teacher, as a behaviour management, or avoidance strategy, chose not to use peer-assessment, because he seemed to think that if learners failed to partake in peer-assessment he would have to punish them with an after-school detention. However, making the learning aims and assessment criteria of the task more specific so that learners can engage in peer-assessment may have been more effective in improving the learning environment. These learners may have been disadvantaged in not being able to engage in peer-assessment activities, and reap the advantages it can provide.

Why the Teachers' Impoverished Implementation of Peer-assessment Matters

The SLT mediated a way of using peer-assessment that is seen as less than effective as it does not provide the opportunity for learners to use written feedback in a formative manner to improve work. Where teachers re-mediated the SLT ideas in the light of their knowledge about assessment, features of assessment practice known to be effective, such as learners engaging in discourse about feedback to improve work (Black *et al.*, 2002) were not seen. Teachers who are using peer-assessment in an impoverished way, restricting learners' use of peer-assessment to more formal, written activities, are limiting learners' understanding of the benefits of peer assessment and their opportunities to learn from it. Using peer-assessment in this formal way does not allow learners to recognise and understand the learning

intentions, or allow the opportunity to develop their social skills. Furthermore, it does not promote the development of metacognitive skills through higher levels of self-reflection in their learning. Developing metacognition through peer-assessment is known to help enhance learners' knowledge about cognition in general, and perhaps more importantly, knowledge of the self, and knowing how to apply tactics, or strategies to advance their learning (Sadler, 1989). If it is the case that teachers are choosing not to employ peer-assessment, then it is not the learners that may require training, but rather the teachers who need to extend their knowledge of how to include peer-assessment as a learning strategy in their classroom routines.

Earlier I outlined the negative aspects of how school accountability in high stakes testing has a large influence on schools (see Section 2.2). There is evidence in the lesson observations and interviews that the accountability teachers face from the SLT in this school, affects their effective use of peer-assessment. Teachers are disrupting the natural flow of lessons by enforcing the use of formal, written peer-assessments. As found in the lesson observations detailed in Table 4, Row 9, the feedback from these peer-assessments is often not actually used by the learners to improve their work, therefore, they disengage from it because they see no purpose. This points to a lack of value attributed to peer-assessment by teachers and learners, and since what they are doing is not useful in any terms other than to respond to Ofsted's demands as interpreted by the SLT, it may be argued that they are correct in not valuing it.

5.2 The Importance of Documenting Peer-assessment

Observations of lessons, such as those shown in Table 4, found that formal peer-assessments are more of a procedural activity than an integrated, natural part of teaching and learning. The learning environment constituted by using formal peer-assessment activities, in the way shown in the lesson of Set 4 in Table 4, is not conducive to supporting learners, as negative emotions and consequent lack of motivation may prevent them from engaging in participative activities and developing associated independent learning skills effectively.

Black and Broadfoot (1982, p.59) state that learners themselves must "get into the habit of evaluating" as this is "likely to be directly productive in fostering the skills involved such as the selection of relevant material, resourcefulness or perseverance". Interviews with both learners and teachers found that as learners became older, many had got "into the habit of evaluating", and learners themselves stated that the more they conducted formal peer-assessment, the more they got "used to it". However, arguably the long-term advantages of peer-assessment with regard to life-long learning are not seen as so important to the teachers as the short-term goals they have to achieve, such as meeting targets for attainment, or worries over behaviour management or being observed and graded by the SLT in relation to their annual performance reviews.

There is a sense that only the short-term gains listed above are of immediate importance to teachers. They must consider the accountability checks imposed by the SLT as their career progression may depend upon it. Teachers are not held

accountable for long-term learning gains. Indeed, would it be possible to measure or hold teachers accountable for the development of learners' life-long learning skills? It is, however, possible that the kinds of attitudinal changes that may be occasioned by engagement in peer-assessment may be measured. A balance between teaching learners to achieve in curriculum subjects, and the development of their life-long learning skills is not evident in the questionnaire data, observations or interviews, and therefore, it can be assumed that opportunities to develop generic procedural skills inherent within peer-assessment are not being taken.

Further CPD Training Required

During the CPD in peer-assessment, teachers shared in an informal manner their formal, formative peer-assessment learning experiences and through providing each other with feedback on colleagues' presentations, teachers drew from them positive and negative traits that were used to inform their own planning of lessons. As described in Section 1.1, teachers perceptions of the CPD training was that they found it very beneficial, but indicated that they often felt isolated in their subject areas. It seems that peer-assessment in the classroom could be enhanced by using peer-assessment between teachers, with teachers assessing and feeding back on each other's teaching practice. Many teachers wanted to feel that peer-assessment was a school-wide procedure, as it currently felt to them more departmental-based. They suggested that formative assessment practices in other curriculum subjects could be shared through the provision of information booklets, or conducting lesson observations, as a possible avenue for professional development (see Section 1.1).

Wilson (2008, p.283) concludes that CPD is a continuing process that must meet "the teachers' needs for personal and professional growth" and include "reflection and the development of skills and knowledge". He also suggested that opportunities for professional dialogue should be more accessible to allow this to occur.

The CPD and the directive from the SLT have heavily skewed teachers' perceptions of what it means to use peer-assessment. However, as was shown in the observations (see Table 4, Column 2) not all teachers used the directed, impoverished version of peer-assessment. They also made space in their lessons for a more informal and formative form of peer assessment. I consider it would be possible to provide CPD that would further encourage the use of this form of peer-assessment, but possibly a professional dialogue between teachers and departments would provide a more realistic way to spread such practices. Observing one another's classes would provide teachers with a vision of how such peer-assessment works and the improved learning environment that could be generated.

5.3 Learners' Uncertainty about Assessment

Fair assessment in the Case Study

Although responses to the attitude questionnaire indicated 80% of learners believe that they peer-assess fairly, 27% strongly agreeing and 53% agreeing, in the preliminary interviews some learners questioned whether their work was fairly assessed by their peers. The number of learners interviewed was markedly smaller than those who responded to the questionnaire, but it was possible to explore this

issue with interviewees in greater depth. The interview data suggested that the learners thought the peer-assessment that they experienced was unfair (see Section 4.4). Considering the learners' understanding of the term 'fair' led me to question whether they had understood the learning intentions, what they were assessing and how to apply criteria for assessment. Thus, the conclusions from these questions must be treated cautiously but it is possible, tenuously, to conclude that learners want to think of themselves assessing fairly. Observations of classes, as exemplified by the vignettes in Chapter 4, showed that teachers did not spend time in lessons assisting learners to understand learning intentions, assessment criteria or showing learners how to assess. Learners' understanding of grading may have differed, and in consequence, some learners considered the feedback they received unfair. Further explorations would be required to fully understand whether learners peer-assess fairly. Analysis of learners' work, as discussed for the vignette in Table 4, showed that learners varied in the accuracy of grading, with some learners giving extreme grading with both over-assessment and under-assessment. Sluijsmans *et al.* (2001) describe this as a 'halo effect', where learners show various degrees of accuracy in their assessments.

There was a difference seen in the gender of the peer-assessor with regard to engagement in peer-assessment and the provision of feedback, which can be seen in the vignettes given in Chapter 4 (see Table 4, Row 10). Many of the girls observed seemed more concerned with presentation rather than the content of their peer's work compared to the observed boys, although all had access to the same assessment criteria. It was also highlighted by a boy (see Table 4, Column 2, Row 10) that he did not provide accurate feedback, and he stated that it would not be followed up by the

teacher as it would not be read. Such remarks demonstrate the lack of value placed on that process of peer-assessment. It can be assumed from this statement that he has had past experience of peer-assessment feedback not being followed up on, and has based his opinion on this.

Factors that may affect how 'fair' a learner gauges their peer-assessment skills to be are discussed further in the next section. The factors identified in the evidence can be summarised as:

- Improvement versus marks - which discusses the 'marks' culture and the pressure to achieve certain 'levels', being focussed upon to a greater extent than feedback and making improvements;
- 'Fair' assessment - which discusses learners being able to peer-assess fairly, but negative social factors preventing them from doing so. An alternative explanation offered is that the training learners have or have not received in peer-assessment may affect how 'fair' their assessments are;
- Literacy levels - which discusses how learners' literacy levels may impact upon their ability to engage in peer-assessment, either as a peer-assessor, or learner receiving feedback.

Improvement or Marks?

Formal peer-assessment was found to be conducted at the end of the time allocated to a piece of learning and required learners to state the level or grade achieved by one of their peers, to provide a positive comment about their work, and some constructive

feedback on how to improve. Such assessments are shown in the vignette in Table 4, Row 8. Teachers, who based their planning on the CPD training easily planned for formal peer-assessment. There was little in-depth reading by the learners observed, however, of written feedback and they were more concerned with the numerical level attained in comparison with others, as shown in Table 4, Row 10. This finding confirms that which Wotjas (1998) described, where written feedback is ignored when levels or grades are also present. In the previous section I identified that teachers were focussed on the short-term gains they could achieve with their learners and on doing as they were asked by the SLT. Lipnevich and Smith (2009) found that improvements made to learners' work would be more successful if the 'marks' were removed, and only written feedback provided to facilitate these improvements. It seems that in developing learning, it is not necessary for the learner to focus their attention on levels, but rather to focus on possible improvements to their work. Perhaps, as discussed later in this chapter, the timing of peer-assessments that were observed being used may further explain the importance learners place on marks as opposed to using feedback for making improvements.

"Fair" Peer-assessment - What the Data Showed

It was apparent in lesson observations (see Table 4, Row 8) and in the follow-up interviews (see Section 4.4) that learners had access to the assessment criteria against which their work would be assessed. Despite the observation data showing that discussion of the learning intentions or assessment criteria was limited in the classroom (see Table 4, Row 2), some learners did make use of the criteria (see Table

4, Row 8). There was some uncertainty discussed in the interviews in the use of these criteria to award the correct level successfully. To overcome this, learners would ask the teacher for clarification. However, as the learners only rarely discussed assessment criteria in lessons, such as in the activities shown in Table 4 (see Row 5), it is unsurprising that they did not recognise the ideas in the interviews or understand the value of knowing the criteria.

Evidence supports the view that peer-assessment can be socially uncomfortable for some learners (see Table 5, Row 3). Learners, who were almost exclusively adopting the formal, grading peer-assessment used in the school, explained how they preferred teacher feedback to peer feedback, as they deemed teachers more suitably qualified to understand the assessment criteria. Upon questioning learners in the final interviews, they suggested they did not know how to apply effectively, and with consistency, grading criteria to a peer's work, and they appeared to have varying levels of confidence in their abilities to grade (see Section 4.4). Due to the emphasis on providing marks with their feedback, as found during formal episodes of peer-assessment (see Table 4, Row 8), it is likely that it is knowing what marks to award, as opposed to what to say in feedback, that the learners are concerned about. It may also be the case in some curriculum subjects that assessment criteria or level descriptors tend to be subjective in nature, and some teachers will grade work differently.

Learners' confidence in their ability to peer-assess was quite low. Bostock (2000) states that there may be difficulties with the reliability of assessments undertaken by learners as they are uncertain how to correctly carry out assessment practice to the

same standard as a teacher, which may further be related to the provision of "marks". This, however, may also be the case with teachers.

In the final interviews (see Section 4.2), teachers stated during the final interview that learners of a lower age, and of a perceived lower ability, struggled more with the formal peer-assessment activities. Due to the vast differences in the quality and perceptions of peer-assessments it may be that learners have varying experiences of peer-assessment from their primary schools. Perhaps teachers of some curriculum subjects provide models on how to assess the work, whereas other teachers presume that this training has been carried out successfully at some point previously. However, if learners are not trained in how to correctly conduct peer-assessment, it will impact on how effectively they peer-assess. This could be an issue for clarification in future research.

Literacy Levels

Wellington (2006) describes how feedback from peer-assessment is likely to be in a language that learners would normally use as opposed to more formal 'teacher speak', see for example some of the feedback recorded in the vignettes in Table 6, Row 2. This is valuable, not only to the learner whose work it is, but also advantageous to the learner providing feedback, as they can learn from the process and improve their practice in self-assessment through engaging in self-reflective practice, as outlined in the literature review (see Sections 2.4 and 2.5), thus fostering criticality, levels of confidence and independence. If learners are more mindful of the processes required

to improve learning, and they have a greater awareness of how their work will be assessed against specific criteria, this could assist in the development of metacognitive thinking. Some of the learners in my research, however, were not engaging with written feedback, and analysis of the data identified learners' poor literacy skills as a possible explanation for this lack of engagement. This issue was identified in the first interviews conducted with teachers, and was also confirmed in the final interviews (see Section 4.4) by LearnerMus2 who commented on having poor handwriting, and LearnerMath who described difficulties in reading a peer's work due to it being illegible. There are studies that explain how learners' perceptions and interpretations of written words may not be reflective of their ability to understand a concept or carry out a skill (Cicourel *et al.*, 1974, Donaldson, 1978 and Beveridge, 1982). The consequence of this is that if learners are not engaging fully in peer-assessment they are, as described earlier, potentially missing out on opportunities to develop metacognition, and to become self-regulated and self-reflective learners. Perhaps in the act of peer-assessing learners could help each other to read the work, and write the feedback, to encourage the development of skills in reading and writing, and understanding of how to develop these skills.

5.4 Effects on Learners Engaging with Peer-assessment

Benefits of Peer-assessment

The observations showed that only if the learners felt comfortable to do so would they take responsibility for their own learning, and engage in identifying ways in which to

improve work. Observations, for example in Table 4 (see Row 11), which show that classes using more informal peer-assessment had improved progress in the lesson, and it was apparent from these observed groups that learners using more informal peer-assessment were more motivated and engaged in their learning. This success was also found by Sebba *et al.* (2008), who found that learners' achievements can be raised through peer-assessment as learners gain a better understanding of their own strengths and weaknesses, and become more accountable for their own learning, providing they know how to do this. Bloom (1976) refers to learners' characteristics, such as levels of interest, attitude, and self-perception, and that these may have an impact on attainment, with up to 25% of the variation in school achievement accounted for by such affective characteristics. Observations, for example Table 6 (see Row 2), showed that learners had better attitudes and interest when working with peers during informal peer-assessment, as they had the opportunity to discuss ideas with peers and provide feedback to each other throughout the discourse. Peer-assessment is a discursive activity that promotes thinking (Chin and Teou, 2009), helping learners to clarify their thinking, justify their ideas using evidence, evaluating and basing conclusions on evidence.

The observations showed that peer-assessment was beneficial in that the learners were involved in peer discussion and interaction which allowed them to access feedback verbally in a language that was easily understood, see for example Table 4, Column 3, Row 5. In addition, it allowed learners the opportunity to ask questions and clarify uncertainties, and to receive immediate feedback from peers. In large classes, where a teacher may find it difficult to give this level of individual feedback, such feedback is as Black *et al.* (2002, p.10) describes "uniquely valuable" as learners can

have guidance more readily than waiting for feedback from the teacher. Learners also did not appear to hesitate in asking questions of peers and made use of the opportunity to improve their work in the lessons where they were encouraged to do so such as those in Tables 4 and 6.

Not only does peer-assessment help learners to develop skills in self-assessment, becoming more analytical in identifying the positive aspects of the work and areas for improvement, but it can help learners to become motivated to work more carefully. Black *et al.* (2003) describe how discourse between peers would give greater power to learners' voice, developing language that is more accessible and providing a criticism more readily taken on board. Although there were barriers identified in the observations such as the lack of willingness to engage (shown in Table 5, Row 3), TeacherMus, as previously explained, is refraining from using peer-assessment even though it would be beneficial to those learners that participate and interact (see Section 4.2).

Learners' Anxiety Engendered by the Use of Levels

The research showed that most learners had an understanding of peer-assessment similar to the one introduced in the CPD, but they were unsure about assigning a level to the peer's work (as explained by Learner A in Section 4.4). As mentioned above, learners were most concerned with the level attained once they received their marked work back, and paid less interest to the written feedback. It seemed to be the levels attained that led to negative emotions and feelings of failure, not the comments. They may have felt deflated when receiving a level they perceived to be poor, or poorer

than that of a peer (see Table 4, Row 10). This concurs with findings from Butler (1987) where self-worth is not promoted and learners disengage when given grades, which have a negative effect on their ego. A learner's willingness to engage in feedback was dependent on what Hattie and Timperley (2007) describe as the transaction costs involved, as learners are more willing to respond when they are confident that the feedback quality is good. Where unclear or negative feedback is provided to learners it can affect a learner's self-image. Therefore, feedback must be constructive, focussing on the positive aspects and offering advice on how to improve. If all learners are receiving feedback in this form, as opposed to levels, the negative effect on learners' ego will be reduced, and therefore, they will be more likely to engage with the feedback.

However, the motivational effect a learner may have in relation to responding to feedback is not wholly restricted to feedback from peers, as the same can be said for feedback from other sources, such as teachers and parents. This will be discussed later in the chapter.

Carless (2005) describes how learners' self-esteem can be low when peer-assessing if they are unsure about their own objectivity and have a lack of training in, or previous engagement in, successful peer-assessment. There may be differences in how teaching and learning takes place between curriculum subjects (Black *et al.*, 2003) which may affect the impact and effectiveness of peer-assessment. However, is this relevant only to differences amongst curriculum subjects or can it also vary due to different teachers within a curriculum subject implementing and conducting peer-assessment? This could be further researched and explained. Within observed

lessons, such as those in the vignettes in chapter 4, it was apparent that there was a clear difference between males and females with the latter less anxious and more open to communicating with their friends for help, and then referring to the teacher if they required further assistance; some male learners, however, displayed greater anxiety in using levels as they preferred not to take part, but were more likely to discuss with friends issues unrelated to their work.

Confidence

TeacherSci stated that learners became more proficient at conducting peer-assessment as they grew older, their experience grew and they became more accustomed to it (see Section 4.2). However, if issues arise, such as negative social or emotional problems, learners who then find it more difficult to form relationships with both peers and teachers may become introvert and find communication difficult. In the final interviews, TeacherSci and TeacherSpan indicated that peer-assessment "is getting better" as learners are becoming more accustomed to taking part in it (see Section 4.2). As learners improve their practice through repetition and engagement in peer-assessment they become more accustomed to understanding what is expected of them. Black *et al.* (2002) conclude that learners would need training and guidance in the habits and skills in how to behave in groups, developing skills such as listening, taking turns to speak and collaborating with other learners in order to fully participate in peer-assessment.

Differences and conflicts, as described by Daniel (2004) were to be expected to occur between how the peer-assessment was carried out, who it was carried out for, which

subject, and which teacher. The research findings show that learners were more confident when they understood the assessment criteria; they were more reluctant to take part in peer-assessment when they, themselves, were unsure (see comments made by Learner A and Learner O in Section 4.4); these comments exhibited a sense of increased anxiety, stress and pressure. The process of providing written marking supports Brew's (1999) comments that peer marking may be problematic in terms of social interactions between learners, reducing the self-esteem of learners receiving feedback, leading to increased expression of negative emotions such as anxiety, fear, stress and feeling threatened. Therefore, learners' lack of motivation is linked with learners' low self-efficacy and confidence in their abilities, and as De Dreu and Beersma (2010) describe, learners are more likely to systematically process information and disseminate it to other learners when they have high epistemic motivation; they state that learners are more likely to have higher group confidence when the tasks are less ambiguous, more predictable and straightforward.

When some learners felt negative emotions derived from perceived peer pressure, they lost interest in participating in peer-assessment and providing feedback, and found reasons to make them worthless activities in which to partake (see quotes from the final interviews with LearnerMus2 and Learner ICT in Section 4.4). Hattie and Timperley (2007), however, show that there is no clear evidence that either positive or negative feedback can enhance learners' motivation or self-belief, therefore, the learners' reaction may be dependent on the learning environment. Pekrun *et al.* (2006) describe experience of these as 'achievement emotions', where joy and pride are expressed when academic goals are achieved, compared to frustration and shame when they are not. Intrinsic values in peer-assessment, where learners understood

the need to carry out peer-assessment as it would help them to attain further goals, was not evident for all learners all of the time (see the quotes from LearnerMus2 and LearnerDan in Section 4.4). To a lesser extent, anger towards peers was discussed, but learners highlighted that they did not want to upset peers by writing negative comments on their work (see quotes from Learner C, Learner M and Learner N in Section 4.4); perhaps they were afraid of peers being angry towards them, as they explained that they did not want to lose friends. Learner C (see Section 4.4) was concerned about hurting the feelings of other learners and discussed offering an inaccurate or inflated level, without constructive feedback on how to improve, regardless of its quality. Falchikov (1995) acknowledged that this may be due to learners not wanting their peers to feel as if they have failed.

If learners are to take increased responsibility for their learning and to become independent learners, it may be important to address the 'social and emotional aspects of learning' (SEAL) (DCSF, 2008). The use of self-assessment and peer-assessment is said to play a crucial role in the SEAL, with development opportunities created through learners engaging in dialogue through paired and group discussions (DCSF, 2008). Pryor and Crossouard (2005) support the view that teachers are responsible, not only for learners' metacognitive reflections and discussions, but also for metasocial factors and the sociological problems of learning. Therefore, if these factors are also addressed learners may be more likely to improve their self-esteem and then engage in feedback.

Social effects

Learners' experiences of what they have come to consider as peer-assessment in this school appears to place a great deal of pressure on them to grade others' work accurately. However, external pressures such as social interactions with peers affect the ways that they make their assessments. The learning environment and the social pressures within this environment, described by Boekaerts and Corno (2005) as sociocultural factors, can be expected to affect the quality and type of engagement of learners in peer-assessment. The evidence is that peer-assessment, as it is realised in this school, is not promoting a positive learning experience. In Graph 2, only 59% of learners report feeling confident in other learners, and in themselves, to peer-assess, whereas 86% of learners have confidence in a teacher assessing their work. As LearnerMus2 suggests (see Section 4.2), by peer-assessing, learners are doing a job more correctly assigned to a teacher, which is accurately grading work against an external set of standards. The reason that peer-assessment is carried out in this way must be to provide evidence to the school's SLT that peer-assessment is being used. The SLT made their directive because it was highlighted as an area for improvement by Ofsted. It seems likely that the negative emotions and connotations it presents to learners undo the reasons that peer-assessment is recommended by the literature, that is to develop social, communication and problem-solving skills, and provide opportunities for learners to become metacognitively wise (James *et al.*, 2007).

The learners' engagement in peer-assessment activities, as previously mentioned, was seen to be affected by personal motivation, or lack of it, which may be affected by their subject-knowledge, learning environment, social factors or literacy levels (see

Sections in 4.4). Boekaerts and Corno (2005) agree that motivation can be steered by personal interest, values, expected satisfaction and rewards. Learners also indicated how peer pressure affects their involvement in peer-assessment, with a preference to preserve friendships, or at the least, prevent bullying (see quotes from learners in the final interviews in the 'peer pressure' Section of 4.4). Boekaerts and Corno (2005) state similar findings where learners may instead prioritise the quality of their friendships with peers and see a focus on learning goals as putting these friendships at risk. If learners are compared with their peers and this norm-referencing is encouraged, it can lead to learners having low self-esteem in relation to learning, especially for learners who are compared unfavourable and publicly with their peers (Harlen and Crick, 2003). This, therefore, gives rise to the possibility that learners interact with different peers in different ways. Learners may avoid risks, preferring less effective and more superficial learning strategies, such as little reflection and analysis, in order to prevent low self-esteem from being established. Such strategies may also prevent learners from giving feedback that may cause negative perceptions in their peers. Therefore, this indicates that learners are not engaging in behaviour that would enable them to make improvements to their work for fear of negative social outcomes. Metacognition is unlikely to be developed if learners are not aware of what they need to do to make improvements to their work, and how to make those improvements.

It was observed in Table 4, Row 10, that girls were more responsive to peer-assessment than boys, however, feedback often referred to presentation rather than to content, as previously discussed. Therefore, the quality and engagement in peer-

assessment could have been due to the learning environment and the various social pressures within it.

Family Effects

Relationships with parents and siblings highlighted differences in both learners' motivation and willingness to try and succeed at school, supporting Hasan's (2002) findings that children's learning is cultivated in family backgrounds. LearnerMus2 stated in the final interviews that they had parents that did not encouraged them to do well at in Spanish stating that the learning in this subject was not relevant in their lives. He was not positive about trying to do well in this subject or engage in peer-assessment (see Section 4.4). Interviews with teachers corroborated these views, as when family members were contacted by TeacherSpan to ask for assistance in helping the learners to achieve in the subject, some parents offered little support (see Section 4.4). When teachers were questioned during interviews about why they thought some parents were not supportive of their children receiving certification in some curriculum subjects, they said that such parents thought it would be unlikely that the knowledge and skills promoted would ever be of use in future education or employment. Jase and Pryor (2010) explain how schools, family, peers and community connectedness is linked to psychological wellbeing. They state how families are fundamental to adolescent development and that supportive, encouraging parents contribute to learners' well-being as it serves as a psychological need to grow confidence and can help them to react more resiliently to stressful events. Hodkinson and Macleod (2010)

highlight how learning may be the result of sociocultural practices of living in particular situations, with learners learning differently outside of school.

There is, perhaps, a need for more family involvement and parental education into how all national curriculum subjects help develop skills which would be relevant to employment and the development of general knowledge. In particular, my research has found that parents should be made aware of the possible benefits of peer-assessment, and the skills that it can potentially provide for learners. This, however, may be challenging in some families due to their own lack of motivation and negative attitudes towards some curriculum subjects because they cannot see how generic and discrete subject-related skills may contribute to employability.

5.5 The Timing of Peer-assessment – is it Important?

The data showed that written peer feedback in this school, whilst it is evident, usually occurs at the end of a unit or topic of work. Black and Broadfoot (1982) also found this, stating that learning in a following topic may have even commenced before the written feedback was received, acknowledging that if assessment does come at the end of a topic, there is no opportunity for learners to use that feedback to improve their work as it is being carried out. The observed learners stated that they did not see the purpose of conducting formal, written peer-assessments when the feedback that they gave or were given was not going to be used to make improvements in the learning (see Table 4, Row 10).

In the interviews teachers attributed their approach to conducting peer-assessments to the pressures of accountability to the school's SLT. The SLT demanded that they provide written evidence that peer-assessment was actually being carried out. Learners described how peer-assessment was useful when implemented during topics, and referred to throughout those episodes of learning. For example, learners reported that the feedback from peers given in Spanish lessons was essential in re-drafting work in preparation for speaking examinations see quote from LearnerMath2 in Section 4.4).

The learners provided advice for improving peer-assessments in the classroom where Learner A suggested that peer-assessment should not be a discrete, individual process of assessing a peer's work, rather it should be a continual process of paired discussion (see Section 4.4). Even if such feedback was written, this discussion would allow for questions to be asked and answered relating to the meaning, spelling and even the levels or grade given to a piece of work.

If both the learners and the teachers can see the benefits of peer-assessment used as an integral part of the classroom environment, there must be some reason why peer-assessment is not used in this more naturally occurring way. As previously mentioned the pressures the teachers felt to show accountability to the SLT is likely to be hindering their planning for natural occurrences of peer-assessment, but lack of knowledge of its importance may be a further factor.

As the peer-assessment reported and observed is only being used at the end of an episode of learning, as demonstrated in Table 4, then almost certainly it is not being used formatively. Peer-assessment should provide learners with the opportunity to discuss and clarify how to recognise areas for improvement in order to create a piece

of work which meets the assessment criteria, and they must be given the opportunity to make these adjustments to their work (Black *et al.*, 2003). The way that peer-assessment has been realised by the teachers in this study is, therefore, not benefiting the learners in the way that it might.

Alternative Strategies and Timing of Peer-assessment

Black *et al.* (2003) suggest that peer marking of test papers can be a useful form of peer-assessment, especially if learners first formulate a mark scheme, focusing their attention on criteria. The evidence from my research shows that learners were not engaged in such activities.

Brew (1999) argued that peer marking may be problematic if it disrupts the natural flow of the lesson and is imposed upon learners. The research, however, has shown that the context of the assessment has an effect on learners' cooperation and motivation to complete their work. More informal processes of peer marking, paired communication and discussion were effective in engaging learners, and during interviews learners commented on how they preferred to work in groups and share ideas. Rudduck and Flutter (2000) observe that teachers should do more to help learners develop a language for talking about learning, and about themselves as learners. The lack of a developed vocabulary to express their understanding in the music lesson demonstrated in Table 5 may well have contributed to the difficult atmosphere observed.

Mitchell (2010) describes how peer collaboration and peer-talk with talking partners can be used throughout a task: when a problem is presented to learners, peers compare their ideas in small groups and explain and justify these ideas, before reaching an agreement within the peer group and then presenting this to other groups. In this way peer-assessment is a continuing process throughout a task and is not restricted to the grading or certification of work at the end of a task, which as the data shows is legitimately considered a teachers task. Teachers and the SLT in the research seem to need to be exposed to these ideas. The emphasis given to peer-assessing at the end of a task, and then the dissemination of proof of this to the SLT during marking trawls has been shown in this school to be counter-productive to the benefits that peer-assessment is capable of achieving.

5.6 Learners are very Positive about Collaborative Learning

Not only did learners prefer to work in groups, but they overwhelmingly stated that they preferred to work in groups with their friends (see Section 4.4). The questionnaire showed that 31% of learners disagreed and 27% of learners strongly disagreed with working in groups with peers other than their friends.

Peer-assessment can be beneficial for all groups of learners, with no specific emphasis on aiding some groups more than others, such as 'ability' or ethnic groups. Learners involved in peer-assessment are in a context to enhance and promote inclusion (Sebba *et al.*, 2008). My own findings were similar to Selçuk *et al.* (2011), where observations of learners showed that they were most engaged in cognitive strategies of learning,

such as making notes and asking questions to both the teacher and other learners (see Tables 4, 5 and 6), and were less engaged in metacognitive strategies of learning such as self-evaluation and evaluation that occurs during peer-assessment (although this was seen in Table 6).

Edmondson (1999, p.354) observed that learners may be more comfortable being themselves when there is "a team climate characterized by interpersonal trust and mutual respect", and that when working with others, psychological safety may be more important than peer team efficacy. My research found this to be true in that the learners who had support and encouragement from peers and family members (see Section 4.4) were more likely to engage in all aspects of learning, including peer-assessment.

Chapter 6: Conclusion

In this chapter I will summarise the main outcomes from my research. Perhaps the most important findings are the effect of the wider environment in school and how greatly that affects both learners' and teachers' views and experiences of peer-assessment.

The findings from my research were that the way that peer-assessment was realised in this school was largely influenced by the CPD training received by its teachers. The CPD influenced teachers to adopt an approach of formal written peer-assessments in lessons. The evidence shows that this formal written assessment was almost exclusively used at a time when learners could make no use of anything they learned through the process of peer-assessment or of any feedback they received. Thus, such assessment could not be classified as formative. As members of the SLT demanded evidence that peer-assessment was being conducted in lessons, formal peer-assessments were employed for accountability purposes and teachers felt compelled to use peer-assessment in this way, as the interviews with teachers showed. The focus of the SLT on providing evidence for Ofsted in order to improve the grade the school received is likely to have encouraged them to advocate this way of using peer-assessment which is impoverished. Not only does it take up time which may have been better spent in more effective learning episodes, it has been shown to cause resentment and a lack of motivation in learners. It is unlikely this was their intention but nonetheless the evidence makes this result clear.

The study clearly demonstrates the level of influence that initial training in peer-assessment, and the quality of this training, will have on its implementation. If that

training is also backed up by a monitoring regime that again focuses on one particular aspect, then it is unsurprising that the situation described in the case study arose. If changes are to be implemented in order to allow the learners to experience the benefits of using peer-assessment the teachers need the concept of peer-assessment to be re-introduced and modifications will need to be made to the monitoring regime.

The use of informal peer-assessment, focused on improving learning, does occur in many lessons in this school, with examples given in Tables 4 and 6 in Chapter 4. Where such peer-assessment happens, it appears to contribute to a purposeful, relaxed environment focused on improving learning. It is clear, therefore, that there has to be more reasons than that given above for teachers not to use informal peer-assessment focused on achieving learning intentions in their lessons.

A focus on progress against learning intentions was not seen in many of the observed lessons, and this may have been because the focus in these lessons was on assessment criteria which described the levels or grades that the learners may achieve against some externally provided source such as the national curriculum (DfE, 2007). Such a focus on the end of topic summative levelling or grading of work was a requirement in the school but it may also have caused teachers to lose sight of other aspects of formative assessment such as a sharing and discussion of learning intentions which would also have encouraged informal peer-assessment.

A further outcome of the study was that learners were more comfortable working with friends where they could share ideas to enhance their learning. Learners trusted their friends more than other learners: they felt safer working with friends. Learners also explained in the final interviews how they could better understand and interpret

friends' non-verbal communication, a learned communication that does not occur with learners other than friends. Furthermore, learners said they liked to be active in the class, working as members of a team and be in an environment where not only contributions in writing were valued, but also oral contributions. This, therefore, also reiterates the negative aspects of the formal, written peer-assessments that were used throughout the school, as they were not conducive to motivating learners to participate. Learners appeared to be most comfortable with verbal feedback, and valued the immediacy of such occurrences as it is less intrusive and more supportive of a natural flow in the lesson.

In interviews with learners they acknowledged the importance of the teacher's role in peer-assessment, and indicated that they could rely on the teacher's assistance if required. In the observations of lessons, for example in Chapter 4, Tables 4, 5 and 6, it was apparent that there was a differing scale of dependence upon the teacher, with some learners more able to communicate with peers, some learners that communicated with the teacher after having exhausted peer help, and learners that relied wholly on the teacher's assistance in assessing their work.

This study found that some learners were more passive in some of the more formal aspects of peer-assessment. This could be attributed to a range of issues as identified in this case study: the extent to which the learners, themselves, understood the subject content, the social effects influencing them, self-esteem, their motivation to take part in peer-assessment activities, and the clarity of the hand-writing and the reading abilities of the learners.

In this research, learners said that they would more readily engage in conducting peer-assessment if they, themselves, were confident in understanding the subject matter. In a less formal atmosphere, learners described how they enjoyed communicating with their friends with regard to work, and this may be because they were able to challenge each other. Learners indicated that they did not, however, enjoy or feel confident about working with learners who were not their friends as they would feel less "relaxed" and more "nervous". This may contribute to reduced self-esteem and self-efficacy as they felt inadequate when compared to others. Therefore, the teacher must balance the need for suitable challenge to build knowledge and understanding, within learners' social preferences. However, in larger groups, and groups when learners were not friendly with each other, there was no collective responsibility, 'social loafing' (Rajaram and Pereira-Pasarin, 2010) was evident where some learners did not take part, and communication was hampered by a lack of social skills. In the final observations of learners it was shown that as group sizes increased learners could be affected from a greater number of social pressures to conform to tasks such as peer-assessment. These findings are confirmed by Rajaram and Pereira-Pasarin (2010) who indicate that social pressures from peers may affect a learner's level of participation and also influence cognitive mechanisms with learners asking and answering questions of each other.

A further cause of discomfort for the learners appears to be the focus on grading the work that was again the result of the SLT's focus during the CPD. The feedback required was a grade and a comment despite Butler's (1987) evidence that comments are not read when grades are given. It is likely that the requirement to grade others' work was a major cause behind the negative comments given about conducting peer-

assessment. The interviews indicated that the learners felt very unsure of their ability to grade "fairly" due to social pressures and a lack of understanding about when a piece of work meets the criteria for a grade. It can be argued that it is the teacher's job to understand the criteria sufficiently to differentiate between grades. Hence, the learners experienced uncertainty when awarding grades, felt they were doing the teacher's job when poorly qualified to do so, and felt there was a lack of purpose in what they were doing as it was unlikely to be read. It is unsurprising that they felt a lack of motivation to take part which sometimes was so marked that it led to poor behaviour, see for example Table 5.

Interviews with learners indicated that when working in pairs, the major components of collaborative learning, as described by Rozenszayn and Assaraf (2011), were evident. The findings in this research demonstrate that the level of participation is dependent on the learners' contexts, whether learners deem the peer-assessment to be formal or informal, who they are working with, and the subject they are in.

Learners' lack of ability in reading or writing, either as the writer of a piece of work, or as the peer-assessor of this work, hinders successful peer-assessment implementation in classes where learners are conducting formal written peer-assessments with little verbal communication or oral feedback. If learners are not able to successfully engage in peer-assessment due to issues involving reading or writing, motivation to participate is reduced, as LearnerMus2 indicated in the final interview, "there's no point". Poor reading and writing skills may affect learners' self-efficacy and self-esteem because they feel isolated and unable to do what others can do, resulting in less engagement in peer-assessment as it is seen as a redundant activity in which there are no gains. In

the preliminary interviews, Learner K suggested that when conducting formal written peer-assessments, verbal peer-assessment should continue. If this were to happen in all classes, then there may be the opportunity for discussions to occur with regard to reading learners' work and the formative feedback provided. As learners themselves indicated in their interviews that they would be comfortable engaging in such discussions, the school should include this in their peer-assessment CPD training and implementation.

In addition to the advantages previously stated for peer-assessment, by ascertaining learners' perspectives and using them as 'expert witnesses' (Rudduck, 1999), learners can provide perspectives from inside the classroom that can only be described if experienced personally. Although this reference is not specifically related to peer-assessment, I believe that the benefits stated are justifiable for peer-assessment too, as by being a member of the community of discourse, learners can share valuable insights about a peer's work based on their experiences within that environment.

To summarise, the main conclusions reached from this research, in relation to the research questions are as follows:

Question 1: How effective is the use of peer-assessment in the classroom within the case study school?

- **How effective is planning for the use of peer-assessment in classrooms?**
- **Do teachers find implementing peer-assessment feasible?**

The effectiveness of peer-assessment is affected by the CPD teachers experience and subsequent policies and monitoring practices. The school's marking policy indicates that peer-assessments should be documented in a written form, and signed and dated by learners completing the assessments (see Section 1.1). Such practices were found to dominate teachers' descriptions of peer-assessments in lessons in Section 4.4, and skewed their understanding of peer-assessment to these more formal peer-assessment procedures as seen in the vignettes (see Table 4, Row 8). The timing of formal peer-assessment is primarily left until the end of a topic of work (see Table 4), therefore, the effectiveness of these formal peer-assessments and the educational value of the process is lessened, as learners were then not given the opportunity to use these assessments to make improvements to their work. Naturally-occurring, informal peer-assessments (see Table 4, Column 3 and Table 6) were found to have more potential benefits than formal, written peer-assessments as learners were generally more able to communicate, discuss, ask questions and ask for clarification. However, these informal practices were not used to their full advantage, possibly due to the focus on formal peer-assessment, therefore, opportunities to develop metacognition from peer-assessment are being missed. If teachers are to develop peer-assessment in ways other than the formal, written peer-assessments that were seen to dominate the findings of this research further action will be needed from the SLT in terms of training and supportive practices such as peer-coaching.

Question 2: What values do learners and teachers in the case study school place on peer-assessment?

Learners were very positive about collaborative learning in an informal, but focussed, learning environment, as exemplified by the interview data (see Section 4.4), however, they placed a higher importance on marks rather than improvements to work (see Table 4, Row 10) and they were uncertain about the 'fairness' of peer-assessment feedback, levels or grades. Many teachers seemed to appreciate the potential effectiveness of peer-assessment (see Section 4.2), however, the occurrence was skewed to the more formal, written peer-assessment (see Table 4, Row 8) as there was great pressure to provide a documented and evidentiary account that they were allowing learners to conduct peer-assessment in their classrooms.

Question 3: Do teachers perceive any barriers to using peer-assessment in lessons?

The following issues relating to this research question were reported in Section 4.4. Learners have increased levels of anxiety when peer-assessing in the way advocated in this school, based on factors such as literacy levels, which can also affect engagement in both writing, and then reading, feedback. Other barriers to using peer-assessment in lessons were found to be the social effects either from peers or family members that either actively encouraged poor participation in general, or learning a particular curriculum subject. In addition to this, learners' self-esteem and confidence were affected by receiving low marks, and from negative written feedback.

6.1 The implications of the research for professional practice and policy in education

The impact that my research has had on my personal practice is in heightening my awareness and understanding of the power of learner voice and of asking the right questions. In addition, the interviews I conducted have also improved my questioning technique, which has had a subsequent improved effect in my questioning technique as a teacher. Participating in the observations and interviews has also improved my skills as a watcher and listener and in being more reflective and critical about the learners' responses, questions and answers. My research could be used effectively by others working in education, who may take inspiration from it to:

- Investigate how effectively formative assessment, and peer-assessment in particular, is used in their own institution, and use my findings as a basis for how they might go about making improvements to teaching and learning in their own school;

- Consider how they respond to Ofsted demands and how they bring about change in their schools. The power that SLTs have over their teachers in terms of pay and possible redundancies will mean that teachers attempt to implement any directives as exactly as possible. Thus, unintentional consequences such as those seen in this school may result. Any directive from the SLT should, therefore, be evidence based and well thought out.

Since completing the research I have started a new role in a different school as an assistant manager of a curriculum faculty. I have started to use my research findings

to influence my new faculty's marking policy and to quickly question learners and teachers about their understanding of peer-assessment. Once I have gained sufficient understanding of the context of this school I will be in a better position to inform practice and policy. I also understand the power of research, the importance of teachers and learners being researchers, and hope to empower teachers in my new curriculum department to research their practice, share findings and learn from each other.

Although the situation of a poor Ofsted report may have been perceived as negative, due to a previous headteacher leaving the school, staff had a strong camaraderie to pull together so that the learners were not disadvantaged. Teachers in the case study school were passionate about making improvements to teaching and learning, however, the general consensus amongst the teachers was that bureaucratic accountability was overshadowing and stifling their professional practice. The marking policy and accountability measures imposed by the SLT in this case negatively affected the professional identity of teachers, de-professionalising them and forcing them to use more formal processes of peer-assessment, whereas both the teachers and learner voice understood the positive effects, socially and metacognitively of informal, naturally-occurring peer-assessments and, therefore, could be expected to use them more than was observed.

The findings from my research can be taken to the SLT in the hope of informing future CPD and enabling them to evaluate the impact of documenting peer-assessment in a written form. Although the deputy head responsible for teaching and learning was made redundant in 2011, her legacy of improving teaching and learning prevailed, and

the headteacher is extremely interested in reading this research and to make improvements to any future training provision to teachers. Members of the LDG are very interested in the findings of my research and share their findings of research through departmental meetings with teaching colleagues.

The bureaucratic accountability affects were influenced by the SLT's interpretation of the feedback from the Ofsted reports. As this feedback is so important and influential, I think it is important for Ofsted to investigate how their feedback has been interpreted and executed. Ofsted has itself, a need to be clear that the requirements placed on schools do not necessitate negative impact of the learning in the schools, as was the case in this research site.

To help learners use peer-assessment more effectively, schools might focus on developing the knowledge, skills and understanding required in curriculum subjects through a programme of learners' personal development training. Personal development may be the basis to allow for cross-curricular improvement in peer-assessment, as Westergaard (2010) describes how skill acquisition could be developed to help learners fulfil their potential and to be able to function effectively in society. Such skill acquisition could include: team work; decision making, planning, monitoring and review; investigation and research; self-awareness and self-presentation; and evaluation. In this research, personal development is an integrated course containing Citizenship, Personal, Social and Health Education, and Financial and Careers Awareness Education, where there is greater flexibility to focus on skill development, whereas other curriculum subjects may feel pressured to be more focussed on content delivery. Learners' and teachers' opinions regarding peer-assessment could be

collected before and after these sessions to see if there are any differences in opinion between teachers and learners, or within these groups. If there is uncertainty in how to carry out peer-assessment by teachers, learners, or both, this can be addressed by the school's leadership team, perhaps involving external support if they are unsure about how to implement it, and they may use it for school improvement.

Informal peer-assessment is arguably inherent within effective teaching and learning and was seen to occur in those lessons where the learning environment was purposeful, for example Table 6 in Chapter 4. However, the evidence is that the more 'formal' peer-assessments are prevalent and are causing concern to learners. The way in which the SLT monitors that peer-assessment is taking place, seems to have been designed for generating evidence for accountability, rather than for improving learning. The peer-assessment that is occurring seems to be having a detrimental effect on the way that teachers and learners perceive peer-assessment, and thus, their motivation to either facilitate or engage in it.

Emphasis in schools should not just be on delivering curriculum content, but also on developing the lifelong learning skills, such as peer talk, collaboration and assessment, that will be relevant to all careers and can create the cultural capital required in our society's future. Falchikov (1991) argues that peers that work collaboratively may be better prepared to assume a variety of roles once leaving school. When working with peers, for example with peer-assessment or peer teaching, it has a positive impact on the development of team working skills, which could be relevant in their future as it provides opportunities to assume a variety of roles that may not be available if learners are only able to work alone. No matter what technologies and jobs will exist,

it is likely that it will involve peer interactions, peer teaching and peer-assessments. Learners need to be able to have these peer collaborative skills to embark on any career. The development of peer collaborative skills should be more prevalent in curriculum delivery as the requirement for it is unlikely to change.

Stefani (1994) describes how teaching of the following strategies involving peer interaction is being incorporated into higher education to make learners more aware of the demands of future employers in terms of being able to demonstrate:

- A bank of transferable skills such as communication and presentation skills;
- Organisational skills, team work and leadership skills.

Would it not be more beneficial if these skills involving such peer interactions are taught earlier on in education? Not all learners will go into higher education, however, they would still benefit from understanding the need to develop such transferable skills. Again, this highlights the need for secondary school educators, such as those in my case study, to find a balance between delivering curriculum content and developing strategic learning skills. Without communication with others, however, this would not be possible, as participation makes salient the dialectic nature of the learning interaction.

6.2 Ways in which the Research Provides a Significant Contribution to the Theory and Practice of Education

Darling-Hammond (2004) describes the 5 types of accountability as political, legal, bureaucratic, professional, and market accountability. In relation to schools, this accountability can be emphasised by the Government with a competitive system

between schools. The government raises the importance on the results of external examinations, placing pressure on the SLTs within schools, and individual teachers, to meet targets to ensure that learners are best equipped to do well and attain these targets. This, in turn, has a negative effect on the amount of time available to successfully implement many things, including formative peer-assessment strategies, as there is an overwhelming culture emphasising the necessity of moving on to the next topic or module so as to ensure the curriculum content is covered. Therefore, teachers have not learned the positive effects peer-assessment could have, both strategically in terms of how learners could be utilised to help each other thus developing metacognition, and also from a sociocultural perspective. Prøitz (2010) describes how there may be a need for curriculum redesign, putting greater focus on the learner and on teacher's professional accountability, and less focus on bureaucratic accountability. My research clearly shows the difficulties in promoting positive perspectives from peer-assessment when peer marking and feedback usually occur at the end of a cycle of learning. To make use of this positive orientation found in the study schools by Prøitz (2010), and to help the learners in my research overcome the detrimental effect of conducting peer-assessment that is not used in follow up to improve work, the teachers in the school in my research might change their approach to a system of peer tutoring. This would support learners encountering areas where their understanding is poorer, presuming some peers have greater levels of understanding. Learners would welcome this approach as they overwhelmingly showed willingness, and had positive attitudes, towards collaborative learning for the improvement of work. Such collaborative learning using informal peer-assessment improves learners' motivation and self-esteem, especially if they work in positive

learning environments with peers they consider friends, and they are enthusiastic about using feedback, if only they are given the opportunity to do so.

6.3 Future Implications of this Research

Peer-assessment can be used, initially, to advance learning and enable learners to develop a repertoire of learning strategies such as becoming successful peer-assessors and self-assessors. The perceived gains are that learners could self-monitor and develop metacognitive skills that allow them to become self-regulated learners. Learners must be taught how to use peer-assessment to learn and to make improvements based on feedback; whether this is a utopian view or that it can be transferable to daily teaching practice requires further research.

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Appendices

Appendix 1: A timeline of the research

Ofsted Inspections	2006-2008
Pilot/Initial Interviews with teachers	January 2009
CPD for peer-assessment	February 2010
Preliminary Observations of teachers and learners	June 2009
Preliminary Interviews with teachers and learners	June 2009
Follow-up Observations of teachers and learners	December 2009
Follow-up Interviews with teachers and learners	December 2009
Pilot questionnaire	July 2010
Questionnaire	July 2010
Final Observations of teachers and learners	February/March 2011
Final Interviews with teachers and learners	February/March 2011

Appendix 2: Learner Consent Letter

Dear Parent/Carer

I am writing to inform you of an opportunity for your child to take part in research into formative and peer-assessment. The research would involve students being observed in lessons and then interviewed in groups to gauge their perceptions of peer-assessment; observations and interviews will be video recorded.

The findings will form part of a thesis for a doctorate which I am undertaking through the Open University. Your child will be completely anonymous in the research and all personal details will be treated as confidential. If necessary, you may also withdraw your child from the research at any time without having to give a reason.

The research project is fully supported by the school and we hope you will also have your support in this research opportunity. If you have any queries please do not hesitate to contact me, as I am happy to address any questions you may have.

Yours Faithfully

Miss Fryer

Teacher of Science/PSHE Co-ordinator

I/we give consent for:

☐ Lesson observation
☐ Interview

Student's Name: _____

Signed: _____ Relationship to student: _____

Date: _____

RETURN COMPLETED SLIPS TO MISS FRYER IN ROOM 31

Appendix 3: Teacher Consent Letter

Dear Teacher

I am writing to inform you of an opportunity for you to take part in research into formative and peer-assessment. The research would involve being observed in lessons and then interviewed in to gauge your perceptions of peer-assessment; observations and interviews will be video recorded.

The findings will form part of a thesis for a doctorate which I am undertaking through the Open University. Your will be completely anonymous in the research and all personal details will be treated as confidential. If necessary, you may also withdraw from the research at any time without having to give a reason.

If you have any queries please do not hesitate to contact me, as I am happy to address any questions you may have.

Yours Faithfully

Miss Fryer

Teacher of Science/PSHE Co-ordinator

I give consent for:

☐ Lesson observation
☐ Interview

Teacher's Name: _____

Signed: _____

Date: _____

Appendix 4: Interview Schedule for Initial Interviews with Teachers

1. What is your name?
2. What is your job title/role in school?
3. How long have you been teaching?
4. How long have you been in this role?
5. How many schools have you worked in?
6. Have you ever read through the DfES Assessment for Learning booklet?
7. Which of the formative assessment strategies (as stated by the DfES Assessment for Learning booklet, pages 6-7) do you use?
8. Which of the formative assessment strategies (as stated by the DfES Assessment for Learning booklet, pages 6-7) does your departments use?
9. How often do you:
    - share learning objectives with learners?
    - help learners to know and recognise the standards they are aiming for?
    - use self-assessment?
    - use peer-assessment?
    - provide a written comment on learners' written work?
    - provide oral feedback to learners?
    - promote confidence that every learner can improve?
    - involve both the teacher and learner in reviewing and reflecting on assessment information?
10. For which pieces of work do you:
    - share learning objectives with learners?

- help learners to know and recognise the standards they are aiming for?
- use self-assessment?
- use peer-assessment?
- provide a written comment on learners' written work?
- provide oral feedback to learners?
- promote confidence that every learner can improve?
- involve both the teacher and learner in reviewing and reflecting on assessment information?

11. Do you think there is consistency amongst the teaching staff in your department with regard to the formative assessment strategies used?
12. What values do you place on formative assessment in the whole-school professional development training?
13. What impact (positive, negative or neutral) do you think the formative assessment strategies you have used have had on learning, and could you give any examples?
14. How do you think the formative assessment strategies others have used have impacted on learning (positive, negative or neutral)?
15. What are your thoughts on the practical applications of formative assessment compared to the thoughts of current House of Commons ministers (House of Commons Testing and Assessment Report, 2008)?
16. What are your thoughts on the school's policy for use of formative assessment?
17. Is there anything else you would like to add?

Appendix 5: Interview Schedule for Preliminary Interviews with Learners

I'd like you to draw a picture of a classroom in a class that you like. If you prefer, you can write down what a class that you like is like.

Question 1: Are there any perceived barriers to using peer-assessment in lessons?

Question 3: What values do learners place on peer-assessment?

Pupil speak:

What do you think about being able to mark each other's work?

What do you think about being able to talk to someone about their work?

When you talk to others about their work, what do you talk about?

Question 2: Are learners' levels of self-esteem and motivation linked to literacy levels?

Pupil speak:

How do you feel about reading someone else's work?

How do you feel about writing comments on other peoples work?

Do you enjoy or not enjoy either marking, or talking to other people about their work?

Are you motivated to mark someone else's work?

Question 4: What values do learners place on written and oral feedback?

Pupil speak:

Do you read your written feedback?

If a teacher gives you written feedback do you take notice of it?

Do you listen to feedback that your teachers give you verbally?

If a teacher gives you verbal feedback do you take notice of it?

Question 6: How feasible is it implementing peer-assessment in lessons?

Appendix 6: Attitude Questionnaire

Questionnaire

Please answer all the questions by putting a tick in the box.

Are you a Boy or a Girl? _____ Please state your age: _____

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I like to work in group with my friends in class.					
I like to work with others who are not my friends in my class.					
I work a lot in groups.					
I use peer-assessment (marking someone else's work) in class.					
The classes I use peer-assessment in are.....					
The classes I do not use peer-assessment in are.....					
I prefer to mark my friends' work.					
I prefer to mark work by					

people who are not my friends.					
My friends trust me to mark their work.					
Other people who are not my friends trust me to mark their work.					
I get on with other people in the class.					
I am confident about peer-assessing someone else's work.					
I am confident when other pupils assess my own work.					
My teacher gives me criteria I can use which tells me how to give different levels/grades when assessing a peer's work.					
Which subjects provide learning objectives and assessment criteria for your work on a regular basis?					
State which subjects are not as good at giving criteria you can use that helps you with peer-assessment.					
I am confident when the teacher assesses my own					

work.					
Peer-assessment helps me to feedback to my peers about what they did well in their work.					
Peer-assessment helps me to feedback to my peers about what they did not do well in their work.					
I assess my peer's work fairly because it can help them learn.					
If you do not assess it fairly, please explain why not.....					
I am honest when I peer-assess my friend's work.					
I am honest when I peer-assess work from someone who is not my friend.					
I am confident in giving positive statements about a friend's work.					
I am confident in giving positive statements about work by someone who is not my friend.					
I treat peer-assessment seriously.					
Do you think peer-assessment helps you to					

learn? Please explain your answer.	

Do you have any further comments to make on working with friends or peers?

If you would not mind if Miss Fryer asked you questions about you're your answers, please add your name here:

_____

Thank you for answering all questions.

Appendix 7: Interview Schedule for Follow-Up Interviews with Teachers

I would like to ask you some questions relating to peer-assessment. So, firstly, can you explain what you perceive 'peer-assessment' to be?

Are the learners aware of the value of peer-assessment carried out formally in groups?

Do you think the learners are aware of the value of peer-assessment carried out informally in groups?

Do you value peer-assessment?

Is peer-assessment motivating?

Do you think that peer-assessment is a formative or a summative process?

How feasible is it to implement peer-assessment in lessons?

Are there any perceived barriers to using peer-assessment in lessons?

Do you have anything else you would like to add?

Thank you for your time.

Appendix 8: Interview Schedule for Follow-Up Interviews with Learners

How confident and comfortable do you feel as the assessor marking somebody else's work?

What were the positive points about the lesson that you had earlier today?

The feedback you got last time, do you think you used any of that in today's work?

Do you think that written feedback is always good?

What were the negative parts of the lesson, what did you not enjoy as much or fell as confident in?

Do you think it would have been different, either positive or negative, if you had worked in bigger groups?

Can you think of anything that would have made that lesson better?

If I say to you "peer-assessment", what does it mean to you?

Did you think of the discussion work you did at the beginning as any type of peer feedback?

When do you think peer-assessment happens?

Have you ever done any peer-assessment and feedback during the task so that you then have the opportunity to go back through that work and use the feedback to make your work better?

So, can you name all the types of peer work that you did today?

Can you think of any other lessons where you've done some sort of peer work?

How confident do you feel, 1 to 10, doing discussion work? 10 the most confident, 1 the least.

Written feedback?

Verbal feedback? Amongst each other?

Is there anything else you would like to add about any of this research that you've carried out so far?

Thank you very much.

Appendix 9: Interview Schedule for Final Interviews with Teachers

How does teachers' training affect the feasibility of implementing peer-assessment in the classroom?

How feasible is it for teachers to plan for the use of peer-assessment in the classroom?

How feasible is it implementing peer-assessment in lessons?

What values do you place on peer-assessment?

Can you comment about learners' motivation with respect to peer-assessment?

What can you comment about learners' self-esteem with respect to peer-assessment?

What can you comment about learners' emotions with respect to peer-assessment?

What can you comment about the learning environment with respect to peer-assessment?

What can you comment about learners' family influences with respect to peer-assessment?

What can you comment about learners' peer influences with respect to peer-assessment?

What can you comment about learners' training with peer-assessment?

What can you comment about learners' reading or writing difficulties with respect to peer-assessment?

What can you comment about learners' use of peer-assessment feedback with respect to peer-assessment?

Do you have anything else you would like to add?

Appendix 10: Interview Schedule for Final Interviews with Learners

If I said the term 'peer-assessment', what does that mean to you?

Do you class talking with others during the course of a task or an activity as peer-assessment?

How feasible is it implementing peer-assessment in lessons?

Why do you like working with friends in the class?

What do you understand by 'fair' peer-assessment?

How do you feel about feel about formal peer-assessment?

How do you feel about informal peer-assessment, where you might discuss work rather than write feedback down?

What factors do you consider when choosing who to work with for formal peer-assessments?

What factors do you consider when choosing who to work with for informal peer-assessments?

What values do you place on peer-assessment?

What can you comment about your motivation with respect to peer-assessment?

Are there any other reasons why you might not engage in peer-assessment?

What can you comment about your self-esteem with respect to peer-assessment?

What can you comment about the learning environment with respect to peer-assessment?

What can you comment about your family influences with respect to peer-assessment?

What can you comment about your peer influences with respect to peer-assessment?

What can you comment about your training with peer-assessment?

What can you comment about your reading or writing difficulties with respect to peer-assessment?

What can you comment about your use of peer-assessment feedback?

Is there anything else you would like to add?

Thank you.